MUNICIPAL–INDUSTRIAL STRATEGY FOR ABATEMENT

(MISA)

The Public Review of the MISA White Paper and the Ministry of the Environment's Response To It

January 1987

Ontario
Ministry of the Environment
Hon. Jim Bradley
Minister
Rod McLeod,
Deputy Minister

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FOREWORD

All the people of Ontario have a direct interest in cleaning up our waterways. We must reduce the toxic wastes that pour out of discharge pipes into our lakes and rivers.

That is the goal of the Municipal-Industrial Strategy for Abatement, or MISA.

When I launched the MISA program in the Legislature, I pledged to open it up to full public consultation. We want a comprehensive, effective program.

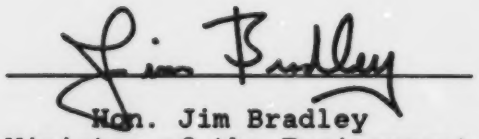
It is a job which requires much imaginative thinking and hard work. To back my ministry's efforts on both these counts, I have turned to the greatest pool of good faith and intelligence I can think of -- the people of our province.

We went to the people. This is a report on the public's responses to the white paper, and my ministry's thoughts on those responses. The wide range of responses includes many useful, informed suggestions and criticisms. They will help my ministry to translate this important and long-overdue plan to protect our waterways into effective and practical actions at each discharge pipe.

Many people have taken the time and effort to participate in the MISA process. I thank them all for their contributions.

I must point out that this White Paper Response Document is not a compilation of final answers. It does not close the book on public consultation. Rather, it is part of a continuing dialogue as we work to perfect and implement the MISA program.

To complete this task, I will continue to rely on both the experts in my ministry and affected industries, and on the advice of concerned citizens.



Hon. Jim Bradley
Minister of the Environment

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1. BACKGROUND

1.1 MISA Program Summary

On June 24, 1986, Environment Minister Jim Bradley tabled a White Paper in the Legislature on the "Municipal-Industrial Strategy for Abatement" or "MISA". This paper described the Ministry's program to control the amount of toxic contaminants contained in industrial and municipal effluents discharged into Ontario's waterways.

It proposed an initiative that will systematically reduce toxic concentrations and loadings at the source of discharges. The goal of MISA is the virtual elimination of persistent toxic contaminants in industrial and municipal discharges into Ontario's waterways.

The MISA White Paper introduced a new approach to controlling point source water pollution. MISA has several key features:

Scope

- MISA will impose pollution abatement requirements on the the eight major industrial sectors, which include some 200 of the more than 300 direct dischargers in Ontario. The remaining direct dischargers will be subject to the same requirements subsequently in further stages of the program.

- MISA will impose similar pollution abatement requirements on municipal sewage treatment plants in the province. This requirement will include the control of indirect loadings from many thousands of small and

medium-sized industries which discharge to some 400 municipal sewer systems in Ontario.

Regulated Controls

° For the first time in Ontario, there will be monitoring regulations which will require municipal and industrial dischargers to monitor the content, concentrations and amounts of toxics in their effluents. This information, together with other supporting information, will be used to determine those priority pollutants for which effluent limits will be established.

° Effluent limits regulations will require municipal and industrial dischargers to reduce pollution by specifying allowable concentrations as well as amounts or loadings of toxic pollutants from each discharger. This will be done on a sector-by-sector basis, and the levels attainable and required will be based on the best available technology economically achievable. More stringent effluent limits may be required on a site-specific basis to protect sensitive receiving water bodies.

Review

° The effluent limits for dischargers in each industrial sector and the municipal sector will be periodically reviewed as appropriate to determine whether further pollution reductions are warranted as a result of improved technology, observed water quality impacts, or other changes.

In addition, the Ministry will improve and strengthen existing abatement and enforcement mechanisms. Effective abatement programs will be developed for each discharger to ensure that compliance with the limits will be achieved.

1.2 Federal Participation

In the early stages of MISA's development, Environment Canada was requested and agreed to provide its technical and scientific expertise to assist Ontario in the MISA initiative. Joint federal-provincial working groups have been established at the staff level and significant technical support has been provided by Environment Canada for the development of sectoral requirements.

The involvement of Environment Canada in the MISA process continues to bring the national perspective to the development of important pollution control measures, and will be of particular value in the transfer of evolving MISA technology to other regions of Canada.

1.3 Public Participation

The White Paper stated the Ministry's commitment to ensuring that the public will be able to have meaningful involvement in the MISA development process. The first opportunity for public involvement was the provision for a 70-day period for a public review of the White Paper. The White Paper was widely distributed to industry, municipalities, public interest groups, the general public, and other organizations. In addition, the Ministry extended an invitation to public interest groups to attend an information exchange meeting on August 12, 1986, in Toronto, in order to learn more about the particular concerns of public interest groups and to answer questions on MISA issues.

There will be several additional opportunities for public involvement in the development of MISA. The recently-formed MISA Advisory Committee, consisting of eight members from various backgrounds and representing various

interests, is in place to provide advice to the Minister on the monitoring and effluent limits regulations as these are developed. This committee will review the penultimate and final drafts of the regulations developed by the Technical Committees.

The final draft of each regulation will be made available for public comment after it is approved by the Minister, and before it is finalized for legislative acceptance.

1.4 Submissions on the White Paper

There was an impressive response from the public to the Minister's invitation to review the White Paper. The Ministry has received 110 submissions to date, from industries and their associations, municipalities, interest groups and the general public. The range of comments is diverse, and from this it is clear that the White Paper received a thorough review.

What is also impressive is the quality of the submissions. It is obvious that much careful, thoughtful effort went into the production of these frank and detailed comments. This can only benefit both the submitters and the Ministry. From this exercise, the Ministry has gained a better appreciation of the strengths, weaknesses and implications of the MISA approach to controlling the pollution of Ontario's waterways.

The Ministry has reviewed every one of the submissions and given careful consideration to the comments and suggestions contained in them. From this thorough review, the Ministry concluded that there is broad support for the MISA program, in that the principles and intent of the program are generally acceptable to all publics, environmental groups and dischargers alike.

This was also true with regard to Ontario's overall approach to environmental protection. Some submissions identified better ways of utilizing existing information and mechanisms; some identified aspects that may need to be addressed in addition to or in subsequent stages of MISA.

As MISA moves through its progressive phases of development and implementation, the participation of all publics in its evolution will serve to strengthen and improve all aspects of the program. On the following pages, the Ministry presents its responses to the issues raised in the submissions to the White Paper, as an example of the Ministry's commitment to this important dialogue.

1.5 Format

A wide range of issues was raised in the many submissions on the MISA White Paper. Many of the submissions discussed the same or similar issues, and for this reason, those issues were grouped under eleven headings as "major issues". Each of these major issues relate to a fundamental component of, or approach to MISA.

In terms of each major issue, the text in the section, "Major Issues and Ministry Responses", identifies and summarizes the main concerns of various public groups, e.g., environmental groups, industries, municipalities, and presents the Ministry's response to those particular concerns. The order in which the major issues are discussed largely reflects the volume of comments on that particular issue in all submissions; the issue discussed first, for example, was the subject of the most comments.

A list of all organizations that made a submission to the Minister on the White Paper is provided in Appendix 1. Appendix 2 is a table identifying more specific comments on the major issues as well as the Ministry's responses. For example, the first concern on the first major issue is that the USEPA approach to setting effluent limits based on Best Available Technology Economically Achievable (BATEA) is technically flawed; the first table in Appendix 2 lists specific ways that the approach was identified as being flawed.

Economics is not treated as a "major issue" in the text but it is addressed substantially in Appendix 3. Since economic issues are closely associated with many of the eleven major issues, however, economic impacts are addressed in terms of the major issues to which they pertain.

Comments on other issues, not raised as much as those deemed "major issues" but nevertheless important in specific ways, are listed in Appendix 3. Copies of all submissions are available on request from the Ministry.

Many details relating to the development of the regulations remain to be worked out through discussion in the sectoral Technical Committees and the Federal/Provincial Technical Working Groups, and then to be reviewed by the MISA Advisory Committee who will make recomendations directly to the Minister. In such cases, the Ministry's position is often expressed as one in principle, in recognition of the need to develop more specific plans or procedures at a later stage.

2. MAJOR ISSUES AND MINISTRY RESPONSES

2.1 Best Available Technology Economically Achievable BAT(EA)

Concern:

° Some of the industrial associations indicated concern over Ontario's plan to set BAT(EA) effluent limits based on the work of the United States Environmental Protection Agency (USEPA). Some industries maintain that the USEPA approach is technically flawed, has been criticized by U.S. industry, and is not directly applicable in Canada (see Appendix 2, p. 1). The majority view seems to be that the appropriate course is to develop Canadian standards, through consultation with industry.

Response:

The White Paper stated as a principle that Ontario will be basing its work on the approach of the USEPA (see White Paper, p. 31). The Ministry intends to carefully examine the USEPA documentation and experience and then adapt the technical and administrative aspects of the US approach that are most effective and practical for Ontario's unique conditions. Ontario's own approach will be developed through extensive consultation with industry and input from the public.

Concern:

° Industry is concerned about the use of BAT(EA) as a basis for setting effluent limits. Industry suggests that the effluent limits, that is, the level of control, should be based on environmental impact that can be scientifically established with adequate cause/effect relationships (see also Rationale for Limits, Appendix 2, p. 3). This view rests on the notion that since some substances may biodegrade more quickly than others, the degree of exposure and impact on the ecosystem and human health should be considered in setting limits for a contaminant.

Response:

The aim of MISA is to control the discharge of toxic contaminants (and conventional pollutants) at source. This will be done, first, through the application of sector-by-sector BAT(EA) standards. The discharger will then carry out a preliminary receiving water impact assessment to determine if the BAT(EA) limits are adequate to protect the local water quality. This may be followed up by more detailed studies, and, if found to be necessary, more stringent effluent limits (see White Paper, p. 41).

The selection of toxic contaminants to be controlled under MISA is discussed under "Priority Pollutants List" on page 53 of this text.

The MISA program represents a major shift in the Ministry's approach to controlling discharges to surface water in Ontario, in that the dilution of contaminants is no longer acceptable. MISA is a preventative means of controlling contaminants, empahsizing instead the reduction of toxic contaminants from effluents at source. Since MISA's goal is the virtual elimination of persistent toxic contaminants, these required reductions will be made progressively more stringent over an appropriate timeframe.

Concern:

° Since the MISA schedule calls for standards for the petroleum industry to be developed first, this sector recommends that in the interest of ensuring a fair and equitable approach (re: industries' general position, see text, p. 50), a program of voluntary compliance should be implemented on an interim basis for that industry while standards and regulations are developed for the other sectors. The petroleum industry wants to see the regulations for all sectors come into effect at the same time.

Response:

This Government considers MISA to be an absolutely essential component of strengthening water pollution control in Ontario; accordingly, MISA is one of the Ministry's top priorities.

Consequently, the Ministry is not prepared to delay the regulatory agenda as outlined in the MISA White Paper. The Ministry still plans to circulate the draft Effluent Monitoring Regulation for public review in early March, and promulgate the Monitoring Regulation for the petroleum refining sector by May 1987.

The Ministry recognizes the petroleum industry's accomplishments in the area of pollution control. As a result of these efforts, the petroleum industry has data available on toxic contaminants in effluents as well as treatment process performance. This information places the industry in a position of readiness for the design of a monitoring program under a regulatory framework, which in turn can serve as a good example for other sectors to follow.

It should be noted that the monitoring regulations for all eight major industrial sectors will be phased in over a fourteen-month period. Effluent limits regulations will also be phased in nine to twelve months following the promulgation of each monitoring regulation. Therefore, all the sector regulations come into effect within a relatively short time period. No sector nor any individual industry in a sector should sustain undue impacts or penalties as a result of the staged introduction of regulations. Also, phasing in the regulations over some months will ease the administrative burden of implementing MISA, and will allow private laboratories to prepare to meet the analytical demand.

Concern:

° Since the quality of a plant's intake water can be affected by other sources, industries suggested that dischargers should be held accountable only for their own "net" loadings, that is, only loadings that do not include intake chemicals. Their view was that "net" loadings should form the basis for BAT(EA) effluent limits.

Response:

The Ministry agrees in principle that a plant should not be held responsible for the pollution generated by another discharger upstream. Therefore, "net" loadings are acceptable. The Ministry's position is that industry will have to monitor both influents and effluents to determine "net" loadings; otherwise, gross loadings will be used in the calcluation of effluent limits.

The matter of net versus gross loadings will be dealt with either on a sectoral or case-by-case basis, during the development of effluent regulations. Some special circumstances would have to be considered on a site-specific basis, for example, if the intake is downstream of an effluent outfall from the same company. Another example is one in which a company may be discharging its effluent into an embayment area where no other sources exist, and the increased level of pollutants of concern in the receiving water could be traced back to the company's discharge; in this situation, gross loadings could be considered.

Concern:

° Industry pointed out that in implementing BAT(EA), it should be government's responsibility to set the effluent limits and industry's responsibility to decide how best to meet the limits at a given site, that is, industry determines the technology to be employed. Industry must have the flexibility to choose technological options to attain BAT(EA) effluent limits.

Response:

This is precisely the approach set out in the White Paper. For each sector, the effluent regulations will state the BAT(EA) effluent limits that must be met for specific contaminants. It is up to the discharger to choose the technologies at a specific site that will best meet the limits.

Under special circumstances, government may intervene with an environmental justification for determining the technology employed. An example is a situation where a specific technology may simply transfer problems from water to air, or aggravate sludge disposal problems.

Concern:

° The majority of the industrial sectors expressed concern over the application of future load reductions beyond BAT(EA) (see Appendix 2, p. 9). They perceive that the imposition of more stringent limits may require expenditures that could significantly impact on the competitive position of Ontario firms, to the point of leading to plant closures. They recommended that the periodic review of limits should require consideration of the economic impacts on industry (see Economic Impacts, Appendix 3, p. 1). A number of industrial associations maintained that more stringent limits should be required only if a detrimental environmental impact can be demonstrated. One industrial association suggested that an appropriate review period of effluent limits is ten years.

Response:

There will be a provision in the effluent limits regulation for periodic reviews of effluent limits to ensure that MISA continues to move toward its long-term goal of virtual elimination of persistent toxic contaminants. This goal will not be achieved solely by the one-time implementation of provincial regulations, which are based on the best technology presently achievable economically and a consideration of the current environmental conditions in receiving waterbodies. A dynamic mechanism is required to periodically assess the effectiveness of pollution abatement performance standards and to impose more stringent standards to reflect advances in technologies and their economic viability, or as ongoing scientific studies indicate further environmental impacts. In this way, MISA's goal can eventually be achieved.

If more stringent effluent limits are imposed as a result of the review, a reasonable time will be allowed for dischargers to absorb the cost of meeting the new requirements.

The appropriate time period for each periodic review and revision of effluent limits depends on technological, economic and environmental considerations. The Ministry is studying these factors and their implications and will develop the timing for review prior to the promulgation of effluent limits regulations (see text, p. 25).

Concern:

° In the United States, BAT(EA) has essentially proven to be the average of treatment technologies employed in a given sector. This is not acceptable to environmental groups. Dischargers should be required to comply with EPA's Best Available Demonstrated Technology (BADT).

Response:

The determinataion of BAT(EA) as a basis for the effluent limits in each sector will be conducted by the sectoral Technical Committees and the Federal/Provincial technical working groups, backed up by relevant U.S. experience and Ontario socio-economic studies. The Minister will make the final decision on what BAT(EA) limits will be on the basis of this and other available information, as well as input from the MISA Advisory Committee and public review of the draft regulations. It is premature at this stage to speculate that Ontario's BAT(EA) will be defined as the average of treatment technologies employed in any given sector.

The White Paper stated that new and expanded municipal or industrial treatment plants will be required to meet more stringent limits than older established plants. These more stringent limits may well be based on Best Available Demonstrated Technology (BADT) performance standards. Existing plants will be required to comply with BAT(EA).

Concern:

° Environmental groups pointed out that MISA may be placing too much emphasis on BAT(EA). In the United States, BAT(EA) has not provided adequate protection of aquatic resources in general and high quality water in particular. They recommended that BAT(EA) standards be supplemented with required monitoring of drainage basins with emphasis on the effect of total loading on sediments and key biota. Such an ecosystem approach should be used as a basis for developing a mass balance/water quality approach, which should then be used in conjunction with BAT(EA).

Response:

BAT(EA) effluent limits will be the first major step in reducing total toxic loadings from municipal and industrial discharges. Dischargers will then be required to conduct receiving water assessments in the vicinity of their discharges in order to determine if more stringent water quality-based effluent limits are required to protect local water quality. These studies will be conducted at all watersheds and sub-watersheds into which toxic effluents are discharged in order to evaluate potential impacts. These studies, together with periodic revisions of BAT(EA) limits, will reduce toxic loadings and bring the Ministry progressively closer to its goal of virtual elimination of persistent toxic contaminants in industrial and municipal discharges.

Total loadings to a watershed are also a function of other sources such as non-point sources and atmospheric deposition. The Ministry is developing and implementing other programs to further assess and reduce pollution from these sources (see Appendix 3, p. 9).

To address local water quality impacts and whole lake or ecosystem concerns, the Ministry conducts an extensive Great Lakes Surveillance program, as well as a river assessment program and an inland lakes program.

In general, the Great Lakes program is conducted in co-ordination with the Great Lakes surveillance program of the federal Department of the Environment (under the Canada-Ontario Agreement, COA). It is designed to investigate areas of aquatic degradation, to recommend control measures, to assess the effectiveness of remedial programs and actions, and to provide early warning of emerging problems and identify long-term trends. The Ministry conducts specific water quality projects in the Areas of Concern in the Great Lakes and the connecting channels, as well as basin-wide monitoring programs. Activities include:

- ambient water quality, and sediment and biological studies to assess impact of industrial and municipal discharges, and non-point sources such as urban and agricultural drainage
- sediment and benthic surveys
- bio-monitoring of trace contaminants
- outfall plume studies
- fish contaminants surveillance
- tributary monitoring

To address water quality impacts and ecosystem concerns in Ontario waters outside the Great Lakes, the Ministry carries out other programs. First, the Provincial Water Quality Network Program provides the Ministry with ambient water quality data from over 700 monitoring stations located on rivers throughout Ontario. The data collected serves several purposes. It is used to assess impacts of point sources (e.g., industries and sewage treatment plants) and to monitor pollution from non-point sources to ensure that water quality is protected for designated beneficial uses, e.g., water supply, recreation, fish habitat. This monitoring and surveillance work also provides background and trend data on water quality and allows for regional assessment of waterways.

Second, the Inland Lakes Program is in place to develop comprehensive water quality management plans for specific inland lakes. Activities include:

- identification of specific inland lake problems

- development and maintenance of a computerized data base to simplify lake assessments and problem identification

- assessment of inputs and pathways affecting biotic communities in inland lakes

Finally, as part of the MISA program, the Ministry is developing a lake-wide approach to allocate site-specific loadings on an ecosystem basis for the protection and maintenance of water quality (whole-lake concept). As well, the Ministry is investigating ecosystem and mass-balance approaches of other jurisdictions, such as that outlined in Michigan's Rule 57, with a view to determining the effectiveness of approaches for Ontario's conditions.

Concern:

° Environmental groups suggested that BAT(EA) should be defined in a generic sense, preferably in legislation, so as to provide a stronger basis for developing regulations.

The USEPA has had the authority to implement uniform national water pollution control standards based on technology since 1972. Amendments to the Clean Water Act in 1977 modified the BAT(EA) approach and extended the implementation of BAT(EA) standards for toxic pollutants to 1987. Implementation in some sectors has been delayed for a number of reasons.

One prominent reason is that BAT(EA) was inadequately defined in the Clean Water Act, and it has therefore faced challenges in the court from industry. The lack of a generic BAT(EA) description has caused difficulties in applying BAT(EA) standards on a sector-by-sector basis.

Environmental groups were concerned about the MISA White Paper in this regard. It appears that Ontario's regulations will not describe BAT(EA) in a generic sense but only on a sector-by-sector basis. This could mean that it will be difficult to know if BAT(EA) is being applied fairly and uniformly across all sectors. Environmental groups felt that without an adequate generic definition of what constitutes BAT(EA) the Technical Committees and the public would not have a clear idea of what BAT(EA) is supposed to be.

Response:

In reviewing EPA's approach, the Ministry noted that the Clean Water Act gave no explicit definition of BAT(EA). However, the Act clearly stated the goal of control of toxic compounds, and listed the factors that USEPA was to consider in determining BAT(EA). The final definition of BAT(EA) in each sector was the end-product of the process. This process was successful in achieving the implementation of BAT(EA) in most sectors, and thus is seen by the Ministry as a reasonable approach to consider.

The White Paper has already laid out Ontario's approach to defining BAT(EA) and the process for doing so. The Ministry is considering whether BAT(EA) should be defined generically for all sectors. The Ministry will take this suggestion under consideration during regulation development and review, and evaluate the feasibility and implications of using a generic definition of BAT in the development of Ontario's regulations.

Overall, the intent of MISA is to encourage dischargers to choose their own abatement technology that will meet the BAT(EA)-based performance limits set out in the Effluent Limits Regulation for their sector. The Ministry does not intend to dictate the adoption of a specific technology. The Ministry recognizes the great variation within any industrial sector and thus wishes to allow flexibility to meet particular environmental requirements.

Concern:

° Fundamental questions emerged, largely among environmental groups, as to what BAT(EA) and "economically achievable" mean, and also, how they will be defined and determined. These concerns have also been raised by industry, municipalities and others. It is generally perceived that the MISA White Paper lacks specificity on this matter.

Response:

The Ministry will conduct sectoral socio-economic impact assessments to obtain a comprehensive picture of the economic implications associated with the implementation of MISA regulations (see Socio-Economic Studies, Appendix 3, p. 6). The following chart indicates the proposed components of these studies.

The socio-economic studies for each sector will be conducted prior to promulgation of the effluent limits regulation. The results from these studies will be used to assess the economic factors which determine the economic achievability of BAT(EA) limits.

Economic considerations are only one factor in finalizing the BAT(EA) limits. The Ministry will also determine the BAT capable of treating, reducing or eliminating toxic contaminants, and the level to which that can be achieved. When the BAT(EA) limits are incorporated in the effluent limits regulation, it will be submitted for review to the MISA Advisory Committee and the public.

The Minister will make the final decision on the effluent limits regulations with input from the MISA Advisory Committee and public review of draft regulations.

ECONOMIC COMPONENTS OF MISA INITIATIVE

MAJOR COMPONENT	PRINCIPAL TASKS	SCHEDULE
1. Build Industrial Profiles	Assemble sector/firm/establishment physical and economic characteristics as well as historical financial ratios, current trends and forecasts of future market production/consumption.	Dec. 86 - June 87
2. Build Municipal Profiles	Assemble physical and economic characteristics as well as historical economic performance data, trends and forecasts of future economic performance.	Mar. 87 - End 87
3. Identify Monitoring Technologies and Assess Costs	Define monitoring technologies and their costs for each contaminant. Estimate the costs of alternative monitoring scenarios/requirements for each sector.	Dec. 86 - Mar. 88
4. Identify Abatement Technologies and Assess Costs	Identify abatement technologies and costs to determine the costs of achieving different levels of controls. Derive least-cost programs to achieve specific effluent reductions.	Sept. 87 - Mar. 89
5. Determine Micro-economic and Sectoral Impacts	Determine the economic reactions of firms to alternative monitoring scenarios and effluent limit scenarios.	Mar. 87 - Apr. 89
6. Determine Impacts on Ontario Economy	Using existing economic models, determine the economic effects of specific levels of environmental protection costs on Ontario's economy.	Fall 87 - Fall 89
7. Identify and Evaluate Municipal Sewer Surcharge Programs in Canada	Review of the status of sewer use control policies with an emphasis on sewer surcharge programs and practices. Design of more effective sewer surcharge programs for municipalities.	Fall 87 - Fall 89

Concern:

- MISA's reliance on industry to monitor its own effluents and provide reliable data to the Ministry for the development of a data base and regulations is perceived by environmental groups to have a built-in conflict of interest. There is not a great deal of confidence, as expressed in the comments of environmental groups and university faculty, in the Ministry's methods for ensuring a high degree of accuracy and control of data, for example, through auditing and a quality assurance/quality control (QA/QC) program, and for detecting violations (re: other concerns about quality assurance, see Appendix 2, p. 6). In their view, the Ministry must develop the capability to effectively evaluate data submitted by industry. They suggested that a committee should be established to address these matters as a way of ensuring public confidence in the monitoring and abatement functions under MISA.

Response:

The Ministry is developing monitoring programs to be conducted by industry at their expense because industry must share the responsibility for ensuring that MISA's goal will be achieved. It is unreasonable to consider having all the monitoring required for MISA to be conducted at public expense.

The White Paper clearly stated the Ministry's approach to ensuring a high degree of accuracy in the monitoring procedures used by dischargers (see p. 21, White Paper). Each sectoral monitoring regulation will include specific QA/QC procedures for each major group of contaminants, procedures which must be followed by the laboratory used by the discharger and checked by the Ministry.

QA/QC methods will contain internal self-controlling and correction functions that will make it difficult to falsify data. Penalties in accordance with the Environmental Protection Act will be determined if falsification is proven.

Procedures for each type of monitoring will also be specified in the regulation, including requirements for flow measurement, sampling and analytical protocols, and reporting. Each monitoring regulation will put in place a comprehensive and enforceable monitoring framework for each sector which will be backed up by Ministry audit and on-site inspections. The MISA Advisory Committee will review the monitoring program developed for each sector.

The Ministry will learn of effluent limit violations by the following means: dischargers will be required to notify the Ministry of violations; Ministry staff will screen the monitoring data submitted by dischargers; and Ministry staff will evaluate data collected during on-site inspections.

In order for the Ministry to manage the data that will be generated for abatement purposes, the existing computerized data centre linked to the Ministry's six regional offices is being improved for quick and efficient collection and dissemination of data. This improvement will also aid in identifying violations and triggering abatement and enforcement actions.

The Ministry considers these data management, audit and QA/QC procedures to be adequate at this time. Further measures and improvements will be developed if found to be necessary as a result of experience gained during the implementation of MISA.

Concern:

- Environmental groups indicated that the periodic review of effluent limits to determine further load reductions beyond BAT(EA) should be mandated in legislation to ensure that this requirement will have the protection of legal status. They recommended a five-year review period.

Response:

The Ministry will make a periodic review of effluent limits a requirement in the regulation. The specific period for review has not yet been determined, but it seems at this stage that five years may be too short a period to be practicable. Many factors need to be taken into account in determining an appropriate review period; these include corporate capital depreciation allowances, administrative problems, compliance problems, manpower and cost requirements for both dischargers and government, the rate at which new pollutants are discovered and control technologies are developed and tested. The Ministry is also considering including "re-opener clauses" in the regulation in the event that significant environmental problems or impacts are discovered, so that a review can be conducted before the automatic review period occurs.

Concern:

- Environmental groups felt that the proposed schedule for introducing municipal effluent regulations, 1989, is too long a delay, since this sector is a major polluter (re: other concerns about MISA schedule, see Appendix 2, p. 33). They suggested that regulations for the municipal sector should be phased in more quickly.

Response:

The Ministry is currently conducting a survey of 40 municipal sewage treatment plants in Ontario, which is expected to be completed by the end of 1987. The objectives of the study are to identify and quantify toxics in influent, effluent and sludges; and to set up computer files for an inventory of industries discharging into these selected municipal sewer systems. This information will be used to support the development of monitoring regulations for the municipal sector which will be promulgated in 1988. Effluent limits regulations for the sector will follow in nine to twelve months.

As well, the Ministry is conducting a comprehensive Sewer Use Control Study scheduled to be completed in 1989. It will take this long to identify and evaluate options for sewer use control and select an optimum control mechanism. The study will conclude in time to support the implementation of regulations to control municipal sewage treatment plant discharges (see Municipal Sector, text, pp. 32 - 37).

2.2 Public Participation

Concern:

° The Ministry has established sectoral Joint Technical Committees which will develop and manage the pre-regulation monitoring programs, and advise on the content of the monitoring regulations. Environmental groups and other organizations point out that under the MISA proposal the foundation for the regulations will be worked out at this level between industry, municipalities and government without public involvement. This is not acceptable in their view. They think the public should have representation on the Technical Committees to ensure that these negotiations have adequate public input (re: public involvement in monitoring and approvals process, see Appendix 2, p. 14). Furthermore, they believe, the Ministry should provide a sufficient level of funding to interest groups on Technical Committees to retain technical experts.

Response:

The Ministry accepts the suggestion of having a public representative on each of the Technical Committees, and has requested the MISA Advisory Committee to recommend individuals for such representation. After consultation with the relevant Technical Committee, with the MISA Advisory Committee, and any other appropriate persons, the Minister will determine the appropriate representation. These representatives need not be members of the MISA Advisory Committee. These positions will not be Order-in-Council appointments and will not include any remuneration.

The Ministry has agreed to provide some funds to the MISA Advisory Committee for professional services. All technical reports in support of regulation development will be made available to the public.

Concern:

° Environmental groups pointed out that the sectors affected by regulations have considerable opportunity for consultation with government at the Technical Committee level. For this reason they felt that the MISA Advisory Committee should not have an industrial representative. Furthermore, they believed that the Ministry should ensure that there are adequate resources provided to the MISA Advisory Committee so their participation in the MISA initiative will be meaningful.

Response:

On November 20, 1986, Environment Minister Jim Bradley announced the composition of the MISA Advisory Committee. The Committee consists of eight members, including a Chairperson and Vice-Chairperson. The members are:

- The committee chairperson is Douglas Hallett. Dr. Hallett is an environmental biologist, biochemist and analytical chemist.

- The vice-chairperson is Toby Vigod, a Counsel with The Canadian Environmental Law Association.

- The remaining members are Monica Campbell, a toxicologist at the University of Toronto; Harvey Claire, a retired environmental protection co-ordinator for Imperial Oil Limited; Dr. Paul Hebert, Professor of Biology at the Great Lakes Institute in Windsor; Dr. Donald McKay, a University of Toronto Professor in the departments of Chemical Engineering, Applied Chemistry and the Institute for Environmental Studies; James McLaren, a consultant who specializes in environmental engineering and policy management; and Kai Millyard, a researcher with the Pollution Probe Foundation.

The Advisory Committee will review the draft monitoring and effluent limits regulations formulated by the technical committees, and provide advice and recommendations to the Minister on their contents.

The Ministry agrees that the membership of the MISA Advisory Committee should consist of the general public, but with one exception. The Ministry finds it reasonable that one industry representative per sector, to be nominated by the sectoral Technical Committee, should sit on the MISA Advisory Committee on a rotating basis when the matters pertaining to a given sector are being reviewed. This would also be the case for the municipal sector. This linkage will facilitate the exchange of information and the progress of the regulation development, and provide a sectoral perspective to the deliberations of the MISA Advisory Committee.

The Ministry has agreed to provide per diem fees for the public members of the MISA Advisory Committee and administrative support services to the Committee. As well, some funds will also be provided for professional services. These measures are meant to ensure that adequate resources are available to the Committee to carry out its work effectively.

Concern:

- It was the view of environmental groups that the Ministry should establish municipal level Advisory Committees consisting of municipal and industry representatives, and the general public, to make decisions regarding the implementation of MISA regulations at the municipal level. They felt that a separate Advisory Committee should be struck to draft BAT(EA) pre-treatment standards for industrial dischargers into sewers.

Response:

The Ministry has established a MISA Advisory Committee which will review the draft regulations for all sectors and advise the Minister. The membership of the Advisory Committee is drawn from the public and will ensure that the public's concerns are taken into account while the regulations are in the draft stage. There will also be a formal public review when each draft regulation is released.

The Municipal Sector Technical Committee will advise the Minister on the content of the sewage treatment plant effluent monitoring and limits regulations. Under the same Committee, a provincial Sewer Use Control Strategy is being developed. Various sewer use control options will be considered. This assessment will have input from the other eight industrial technical committees with regard to industrial discharges into the sewer system.

Concern:

° Environmental groups believe that the Ministry should provide development documents which explain the rationale for any regulation when it is released for public comment, and that the public comment period should be 60 days.

Response:

The Ministry recognizes the importance of public involvement in setting regulations and is therefore committed to providing information which explains the regulations and their rationale. The whole regulation package, that is, the regulation and the rationale for it, will be released for public review.

At this point, the Ministry will adhere to a 30-day comment period in order to meet the MISA abatement timetable. The Minister retains the ability, however, to extend the review period if circumstances should warrant it.

In any event, the MISA Advisory Committee will have the opportunity to review and comment on the draft regulations before they are released for public comment and review.

2.3 Municipal Sector Regulations

Concern:

° There is a general concern shared by many municipalities about the potential cost to municipalities of many aspects of MISA: monitoring, treatment upgrading, enforcement, administration, etc. (re: other cost issues, see Appendix 3, p. 2). Municipalities recognize that MISA will impose an additional cost on taxpayers, over and above the costs of other current Ministry programs. This will make it even more difficult for municipalities to set spending priorities. Municipalities could save millions in expensive upgrading if effective pre-treatment programs were established, and paid for by industry, in accordance with the 'polluter pays' principle.

Municipalities felt in general that the Province should be prepared to provide additional financial assistance to municipalities to help them implement MISA.

Response:

The White Paper clearly indicated that socio-economic impact studies will be undertaken in each sector, including the municipal sector, before the promulgation of the effluent limits regulations.

For the municipal sector, the Ministry, through the Technical Committee, has initiated a comprehensive Sewer Use Control Study. This includes an analysis of costs, effectiveness and achievability of various options for controlling toxic inputs to municipal sewer systems and treatment facilities. Pre-treatment standards

for indirect dischargers is one of the alternatives to be studied. On the basis of this study, and input from the Federal Government, the MISA Advisory Committee, the Municipal and Industrial Technical Committees, and the public, the Minister will make a decision on the sewer use control program to be followed in Ontario. Until then, it is premature to discuss the cost or cost-sharing possibilities of implementing MISA by municipalities. The Ministry is prepared to explore with the Federal Government various ways of assisting municipalities.

Concern:

° Environmental groups, the public, and some municipalities expressed concern about industries discharging into municipal sewage treatment plant systems, which in turn discharge into Ontario's waterways, as a major source of pollution. They felt that the MISA proposals outlined in the White Paper to deal with this problem are inadequate. In general, environmental groups and the public want the Province to assume more responsibility for controlling pollution from sewer systems in the following ways:

- Develop BAT(EA)-based pre-treatment regulations and standards for indirect dischargers to reduce toxic inputs into sewers and Sewage Treatment Plants (STPs)(see Appendix 2, pp. 17-18), in parallel with the development of industrial direct discharger standards.

- Improve the Sewer Use Bylaw and/or, in recognition of the fact that most municipalities do not have the resources to adequately enforce bylaws, provide greater financial/investigative support to improve enforcement capabilities (see Appendix 2, pp. 16-17).

- Amend the Ontario Water Resources Act to remove the exemption of municipal STPs from prosecution and the requirements of the Act.

- Adopt a long-term goal of completely phasing out the use of Ontario's municipal sewer systems for any toxic discharges because municipal STPs were not designed to treat toxic wastes successfully (see zero discharge goal, text, p. 51).

Response:

The Sewer Use Control Study referred to on p. 30 addresses the first two concerns. A brief summary and description of the program is presented in the chart on the next page.

Bill 112, an Act respecting the Enforcement of Statutes related to the Environment, which received Royal Assent on December 18, 1986, contains a provision to remove the exemption allowing municipalities immunity from prosecution under the Ontario Water Resources Act. Bill 112 also contains a provision which binds Crown agencies to the provisions of the Act, as of March 31, 1987. In the Environmental Protection Act, under which the MISA regulations will be made, there is no exemption provision for municipalities and the Act also binds Crown agencies.

With regard to the last suggestion, phasing out the discharging of toxic, persistent and non-biodegradable wastes into municipal sewer systems, the Sewer Use Control Study will consider this suggestion as one of the options for an optimum sewer use control strategy for Ontario.

A STUDY FOR THE DEVELOPMENT OF A SEWER USE CONTROL PROGRAM IN ONTARIO

MAIN COMPONENT	PRINCIPAL TASKS	SCHEDULE
1. Evaluate Sewer Use Control Alternatives	° Determine magnitude and importance of industrial and non-industrial toxic discharges to sewer systems in Ontario, and establish the order of priority of industrial categories to be dealt with. ° Evaluate in-depth the USEPA pre-treatment approach to determine its suitability to Ontario, and identify the major implications associated with adapting it in Ontario. Also examine European/Japanese and other jurisdictions approaches. ° Assess other viable options. ° Screen all options in terms of level of enforcement required (particularly the municipal vs. provincial role in program implementation and enforcement), cost, effectiveness in removing toxics, etc. and select most viable options or combinations of options.	Nov. 86 - Jul. 87
2. Demonstration of Options	° It may be necessary to demonstrate some or part of the most viable option(s) to further determine practicality and cost and administrative problems, etc.. Also demonstrate and promote household hazardous waste collection programs (using depots) to reduce toxics in domestic sewage.	Aug. 87 - Sept. 89
3. Select Optimum Control Mechanism	° Following the evaluation and demonstration phases and the public review of the options, make final selection of the optimum Sewer Use Control Strategy.	Oct. 89 - Dec. 89

A STUDY FOR THE DEVELOPMENT OF A SEWER USE CONTROL PROGRAM IN ONTARIO

MAIN COMPONENT	PRINCIPAL TASKS	SCHEDULE
4. Public Education	° Develop communication programs to increase awareness of the problem and magnitude and costs associated with various levels of sewer use control; also to encourage the separate household hazardous waste collection to reduce toxics in domestic sewage.	Early 87 & continue
5. Develop Interim Sewer Use Control Strategy (1987-1989)	° Develop and implement methods to bridge the gap between now and the implementation of municipal effluent regulations (e.g., revised Model Sewer Use Bylaw, stiffer penalties, enforcement improvements).	Throughout 87

2.4 Abatement and Enforcement

Concern:

° The White Paper specifies that a discharger has 180 days to come into compliance when the Ministry issues an abatement request. Industries felt that this is an unrealistic and unsatisfactory time in which to install required equipment, and that it should be negotiable.

Response:

When the Ministry makes a written request for abatement, the discharger has 180 days in which to take action; this time is specified in the Ministry's Uniform Enforcement Policy. The 180-day compliance period does not necessarily mean that the new abatement equipment must in all cases be designed, purchased, installed and functioning within this period.

Under MISA, the compliance requirement comes into effect as soon as the effluent limits regulation is promulgated. Two options are available to the discharger out of compliance. The discharger can install the necessary equipment or take whatever steps are available to reach compliance within 180 days. Alternatively, the discharger must agree within the 180-day period to a legally binding abatement program as set out in a control document.

Concern:

° Municipalities indicated the need to have input into the development of uniform provisions to enforce compliance with bylaws and ensure development of uniform municipal effluent limits. They suggested that the Province should allow municipalities to levy substantial penalties for bylaw violations on matters related to MISA enforcement. A number of municipalities expressed concern about the implications of procedures by which "offenders report the offence".

Response:

At this stage, the Model Sewer Use Bylaw is under revision and it will be made final in the near future. It is a significant improvement over the 1975 version but it does not fully address the requirements of MISA. It will be employed as part of an interim sewer use control strategy to bridge the gap between now and 1989, when the Ministry will make the final selection of the optimum Sewer Use Control Strategy. The Ministry will also be in a better position at that stage to consider the respective roles of the Province and the municipalities with respect to program implementation and enforcement, as well as the level of penalties for sewer use violations.

Currently, the maximum fine that can be imposed by municipalities for sewer use bylaw violations is $2,000. The Cabinet is considering a proposal for giving municipalities the authority to levy fines for sewer bylaw offences that are equal to fines allowed for other regulatory offences under the Environmental Protection Act.

As far as the self-monitoring concept is concerned, there are many examples of situations where government requires individuals or companies to submit data for evaluation, which if false, can lead to the imposition of a penalty; an example is the case of individuals reporting income tax information with spot-checks and auditing by the Government.

Concern:

° Environmental groups pointed out that the key to enforcement is the ability to detect violations. They felt that the methods MISA proposes for this are essentially no different from the method presently used by the Ministry. Essentially, they want the procedures for detecting violations and enforcing compliance strengthened.

They want the Ministry to ensure that dischargers will be required to report reliable data, and they want the Ministry to routinely review these data. They also want the Ministry to commit sufficient resources to enforcement activities. Furthermore, they pointed out, the MISA White Paper does not discuss how the Ministry will detect Sewer Use Bylaw offences.

Response:

The MISA White Paper outlines the general principles for effluent monitoring by all dischargers and for the Ministry's auditing program. These principles are: strict adherence to established sampling, flow measurement and analytical procedures; quality assurance/quality control program for dischargers; QA/QC check by the Ministry; and random audit by the Ministry coupled with on-site inspections. The specific procedures (i.e., sampling, analytical protocols and auditing) for each sector are being developed in the sectoral Technical Committees.

The Ministry will learn of effluent limit violations by the following means: dischargers will be required to notify the

Ministry of violations; Ministry staff will screen the monitoring data submitted by dischargers; and Ministry staff will evaluate data collected during on-site inspections.

In order for the Ministry to manage the data that will be generated for abatement purposes, the existing computerized data centre linked to the Ministry's six regional offices is being improved for quick and efficient collection and dissemination of data. This improvement will also aid in identifying violations and triggering abatement and enforcement actions.

In general, monitoring procedures that could be required would be at three levels of intensity:

1. Monitoring regularly but infrequently to identify and measure pollutants of concern on the Ontario Priority Pollutants List. The purpose of this procedure is to determine the presence/absence of pollutants of concern in effluents and to establish a long-term data base within a uniform regulatory framework.

2. Monitoring frequently for a short list of selected "candidates for control" which are substances chosen on the basis of environmental significance, or indications of plant processes and treatment performance, or likelihood of release. These substances are also chosen as indicators for groups of contaminants likely to be captured by the same abatement processes used to abate the candidate substances.

3. Monitoring at medium frequency for an intermediate list of pollutants which is broader than but related to the short list for which more frequent monitoring is required. The data base will be used to calcluate concentrations and loadings of toxics, as well as to

assess the validity of frequent, short list monitoring as a means of demonstrating the expected reduction of toxic substances from effluent discharges. These data will be used as the basis for altering the short list.

All these measures will be backed up by the general penalty provisions of the Environmental Protection Act. In addition, the Investigation and Enforcement Branch has been expanded to improve enforcement capabilities.

Regarding the last point of concern, procedures for the detection of sewer use violations will be developed as part of the Sewer Use Control Strategy.

Concern:

° Environmental groups pointed out that, with regard to responding to violations, it appears MISA will continue to rely on the existing control order process; in their view, this process is outdated and flawed. In the absence of specific "variance" provisions in the regulations for a company seeking an exemption from regulatory requirements, they fear that control orders will continue to be the focus for industries to negotiate a relaxation of the regulatory requirements.

Response:

The effluent regulation for a given sector will specify the minimum BAT(EA) limits that must be met by every industry in that sector. However, practicality dictates that the limits cannot always be met immediately, since capital works will be necessary in many instances. Control Orders provide the flexibility to schedule such works over a reasonable period of time. The time period for compliance in the Control Order will be established after a thorough accounting of local environmental conditions, discharge impacts and socio-economic impacts, based on validated data. This accounting will be carried out with public review, and will result in a time period fully justifiable on technical, environmental and economic grounds.

The Ministry is currently reviewing the control order process and also considering other control instruments and approval procedures, such as the USEPA type of permit system.

2.5 Water Quality Impact/Biomonitoring

Concern:

- Industry generally supports the application of water quality studies. However, there are a number of concerns regarding the MISA approach (see Dischargers' and Government's Role, Appendix 2, p. 24), and methods available to determine water quality (see Methodology, Appendix 2, p. 28). In general, industry takes the position that aquatic studies to determine the impact of their own effluent are their responsibility. Larger ecosystem studies, which involve a determination of water quality impacts and setting of limits where there are several dischargers in close proximity, are a government responsibility, since industry does not have the expertise to conduct such studies or information on other dischargers. In addition, studies conducted and paid for by dischargers will have very little credibility with the public, even when validated by the Ministry.

Response:

As part of the MISA program, the Ministry has taken steps to ensure that dischargers or their consultants will have the tools to carry out receiving water assessments. Through the various Pilot Site Studies, standardized water quality assessment procedures are being developed for application by dischargers in their studies. The procedures will be detailed in guidance manuals. The Ministry is developing methods to simplify these techniques and still get accurate results; some of these methods could involve effluent biomonitoring. The Ministry will also provide assistance, planning and coordination in cases where there are multiple dischargers involved. Since dischargers utilize the Province's waterways, they will be expected to pay for these studies, as the results will lead to development of controls for their own effluents.

As part of the Ministry's ongoing monitoring and assessment programs, the Ministry will continue to conduct water quality impact assessment on a whole lake basis and in areas beyond the effluent mixing zones (see text pp. 17 - 18).

Concern:

° Environmental groups pointed out that some Great Lakes States have found that BAT(EA) limits did not provide adequate protection of aquatic resources. These states have found it necessary to promulgate more rigorous water quality-based effluent regulations (re: Great Lakes States, see Appendix 2, p. 28). This process has given rise to controversial debates on fundamental policy questions relating to protection of water resources, and high quality water in particular.

Response:

The Ministry is reviewing the experience of the State of Michigan (Rule 57) and other jurisdictions in this regard. While Ontario's MISA regulations will specify BAT(EA) effluent limits, a key component of the MISA program is the development of stricter discharge limits where necessary, based on site-specific and ecosystem studies to determine the water quality impacts of dischargers. These studies will generally be performed by industry, with backup studies on lake-wide impacts and on areas beyond the effluent mixing zones provided by the Ministry.

2.6 Environmental Control Commission (ECC)

° Establishing an ECC is a recommendation put forward by Greenpeace and the idea is supported by other environmental groups. The ECC would be an independent commission with members from the public. The ECC would have wide ranging powers to oversee all aspects of MISA (see Appendix 2, pp. 31 - 32).

Response:

The Ministry anticipates that the MISA Advisory Committee, whose membership is drawn from the general public, will serve many of the advisory functions envisioned for the ECC. Final decisions remain with the Minister and the government, which are directly accountable to the electorate.

2.7 MISA Schedule

° Several organizations, and industry in particular, asserted that the MISA schedule is highly optimistic and unrealistic in view of the time required to collect and interpret data, and develop sound effluent limits. A more realistic schedule should be worked out for each sector at the Technical Committee level.

Response:

The review of the White Paper submissions indicated that many organizations and individuals support the goals and intent of the MISA initiative. The public is eager to reap the benefits of this abatement program, namely, environmental protection and improvement. In order to develop the required abatement program, a regulatory development schedule, taking into account the responsibilities of industries and municipalities, public interest groups and government, had to be established.

The Ministry believes that with the full co-operation of industries and municipalities the MISA timetable, as outlined in the White Paper, can be substantially achieved. Under exceptional circumstances, the Minister has the discretion to slightly alter the schedule.

It may be interesting to note that environmental groups are concerned that the time proposed for the development and implementation of effluent limits regulations for industries and municipalities is too long, and that in the interim, pollution will continue.

2.8 MISA's Goal/Strategy

° Industry maintains that the proposed MISA regulations must be fair, consistent, equitable, uniform, scientifically supportable, and realistic in cost-benefit terms.

Response:

The Ministry agrees that all of these concepts are elements to be taken into consideration in formulating effective regulations.

Concern:

° Environmental groups are generally in agreement that MISA should adopt a zero discharge goal for toxic contaminants.

Response:

MISA's ultimate goal is the virtual elimination of persistent toxic contaminants in municipal and industrial discharges into waterways (see Toxic Pollution, Appendix 3, p. 10). This goal is consistent with the goal adopted by the International Joint Commission for management of the Great Lakes under Article 2(a) of the 1978 Canada-U.S. Great Lakes Water Quality Agreement.

2.9 Legislative Aspects

Concern:

- Environmental groups were concerned that only some components of MISA will be put into regulations, and that many important aspects of MISA will remain policy matters, not legally safeguarded, which can be changed by the Ministry (e.g., public involvement, scheduling, criteria for determining BAT(EA) and procedures for determining water quality impacts and enforceable ambient water quality standards, etc.).

Response:

The Ministry is considering incorporating aspects of MISA other than monitoring and effluent limits into regulations as appropriate. An example is the procedures for deriving effluent limits on the basis of water quality impacts.

2.10 Priority Pollutants List

° Industry and environmental groups stressed the need to develop a priority pollutants list, including the scientific evidence and rationale for it. This list should be a basis for developing BAT(EA) effluent limits, and should be made available to the public. The public should be able to participate in the periodic review of the list and selection of target compounds.

Response:

The Ministry agrees with the need for a priority pollutants list. Accordingly, a MISA Priority Pollutants List for Ontario is now under development by a Task Force. A preliminary list should be ready in early 1987 for industrial, municipal and public review. Supporting information attached to the list will include the rationale for each chemical on the list, and the procedure and criteria used to develop the list.

The MISA Priority Pollutants List will be comprised of those chemicals present or likely present in industrial or municipal effluents in Ontario which could have an adverse effect on the receiving environment.

A chemical hazard assessment methodology that examines both effects and exposure potential in Ontario is under development, to provide a basis for selecting chemicals for the list. The criteria being developed for this methodology will be adapted from recent Ontario efforts in this field and from accepted programs in other jurisdictions.

The list will be used in preparation for monitoring regulations which are being developed for the various industrial sectors and the municipal sector in Ontario under the MISA program. These monitoring regulations will require dischargers to identify pollutants in their effluents in accordance with the priority chemicals on the list.

The list will be developed with input from the sectoral Technical Committees and reviewed by the MISA Advisory Committee. Subsequently, it will be made available to the public for comment.

Criteria under consideration for chemicals to be included in the list may include:

- acute and chronic toxicity
- carcinogenicity
- mutagenicity
- teratogenicity
- environmental persistence
- bioaccumulation
- other adverse effects on terrestrial and aquatic organisms
- precursor of a toxic material
- problem (or suspected) in the Ontario scene

2.11 Data Confidentiality

Concern:

- Industry wanted assurance that safeguards for protection of proprietory and process information will be put in place (see Appendix 2, p. 39), that Government will minimize the information required from industry, and that interagency release of information will require prior owners' consent by agreement.

Response:

The Ministry agrees that appropriate safeguards for proprietary information should be worked out for each sector by the sectoral Technical Committees, if needed in the course of implementing MISA. As an example, an agreement for protecting proprietory information was developed by Ministry, Environment Canada and industry members of the organic chemical sector Technical Committee. It is being used as a framework for information exchange between that industry and the Ministry but it could be adapted to other sectors. The terms are as follows:

> Confidential data provided to the Ministry of the Environment may be shared with Environment Canada on a government-to-government basis. This transfer of confidential information will be made on the assurance that Environment Canada will not release this information to third parties without prior written consent of the Ministry of the Environment. The Ministry, in turn, would not give this consent without the consent of the person to whom the information relates.

The public will have complete access to data on contaminant discharges to surface waters and on the effluent limits set for all discharges. They will know which dischargers are in compliance, which dischargers have to implement further pollution abatement measures, and the status of individual abatement programs.

APPENDIX 1

ORGANIZATIONS THAT MADE A SUBMISSION ON THE MISA WHITE PAPER

ORGANIZATIONS THAT SUBMITTED RESPONSES ON THE MISA WHITE PAPER

INDUSTRIES	MUNICIPALITIES	INTEREST GROUPS	PUBLIC	PUBLIC
Ont. Petroleum Assoc.	City of Newmarket	Fed. of Ont. Naturalists	R. Schultz	R. Rogers
Petrosar Ltd.	Town of Pickering	Greenpeace	J. Byers	A. MacInnis
Ont. Forest Ind. Assoc.	Metro Toronto	Pollution Probe	G.W. Paterson	M. Wendt
Alcan Rolled Products	City of Thunder Bay	Canadian Environmental Law Assoc. - Canadian Environmental Law Research Foundation	H. Hansen	L. Convery
Dow Chemical	Reg. Mun. of Niagara		S. Hildstek	L. McMartin
Canadian Chemical Producers Assoc.	City of Barrie		M. Harrison	B & G. Bryant
Esso Petroleum	Town of Richmond Hill		D. Black	B. Adderley
Fraser Inc.	City of Kanata		D. E. Brown Ins.	M. MacEachern
Lambton Ind'l Society	Association of Ontario Municipalities	Ont. Environment Network	L.J. Damude-Empey	M. Millar
Ontario Hydro	City of Sarnia	Wallaceburg Citizens Coalition for Clean Water	D. & M. Main	
Ontario Mining Assoc.	Town of Cobourg		H. Brister	OTHER
Tricil	City of Windsor	Great Lakes United - N.Y.	P. Findley	
Stelco	City of Burlington	Sierra Club of Ontario	S. Sheard	
Noranda	Moore Township	St. Clair River International Citizen's Network	D. O'Farrell	GOVERNMENT
Ont. Waste Mgmt. Assoc.	City of York		S. & R. Digby	Ministry of Natural Resources
Canadian Steel Environmental Assoc.	Township of Woolwich		S. Kleinau	Min. of Industry, Trade & Technolog
Canadian Manufacturers' Assoc.	Reg. Mun. of Hamilton-Wentworth		D.F. Cipaus	Environmental Protection Agency
Domtar	City of Toronto Dept. of Public Health		G. Condon	Ministry of Municipa Affairs
Penwalt Corp	City of Etobicoke		K. Brothers	T. McMillan, Federal Minister of the Environment
	City of North York		J.E. Chamberlain	
	City of Cambridge		C. Connor	
	City of Hamilton		K. Windibank	
	City of St. Catharines		R. Tait	CROWN CORPORATIONS
	Reg. Mun. of Waterloo		H. Grenzbach	OMMC
			P. Sadler	
			S. Hutchinson	
			W. Sproul	
			H. Brink	UNIVERSITIES
			J. Del Junco	U. of Western Ontari
			B. Werenskiolo	Brock University
			J. Palmer	
			S. Moore	
			B. Childs	LAW FIRMS
			M.S. Winberg	Gardiner, Blumberg a Somer
			B. Schellenberg	
			S. Galbraith	
			N.V. Finnie	
			N. Smith	
			S. Thompson	
			J.R. Tyrrell	

APPENDIX 2

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE BAT(EA)	Approach to Setting BAT(EA) Limits: ° USEPA approach for the organic chemical sector is flawed and has been criticized as follows: - Even for the exemplary plants used to set the limits, EPA's proposed BAT(EA) limits are not achievable with the technology specified by EPA. - Too many virtually undetectable pollutants are proposed for specific regulation. - USEPA has failed to specify technology or determine compliance costs for plants to achieve the limits consistently. - USEPA's methodology for calculating effluent loadings is technically unsound. - The proposed BAT(EA) limits are based upon an extremely limited data base, ignoring significant amounts of data provided by some companies in the organic chemical sector.	The Ministry recognizes the comments and criticisms made by the Chemical Manufacturers Association in the U.S. The Ministry is evaluating the positive and negative aspects of the USEPA approach to the organic chemical sector, recognizing that the current rules are not final. The approach outlined in the White Paper was not intended to imply that Ontario's position will be identical to the USEPA position.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
:ST AVAILABLE TECHNOLOGY :ONOMICALLY ACHIEVABLE \T(EA) :ontinued)	Approach to Setting BAT(EA) Limits (continued): - USEPA inappropriately emphasizes short-term data and that data significantly overstates treatment performance capabilities. Therefore, Ontario (MISA) should take raw data and develop its own limits using sound statistical methods. USEPA programs should be assessed to determine if they have led to cleaner water than water in Ontario. USEPA has been unable to set standards for most of the substances on their priority list. States attempting to implement BAT(EA) face alack of EPA supporting documentation and industrial challenges to the BAT(EA) definition. The Ministry should not adopt the approach of the USEPA, which allows Best Conventional Technology (BCT) to equal Best Practicable Technology (BPT) for conventional pollutants, when additional treatment costs are not considered justified.	The approach to setting BAT(EA) limits outlined in the White Paper was designed to provide the flexibility to deal with these issues. During the pre-regulation consultation phase, the sectoral Technical Committees will develop monitoring programs, to be carried out by industry, that will provide the data necessary to develop Ontario's monitoring and effluent limits regulations. Industry will be expected to make available existing data bases to the Ministry. The monitoring regulations will require mandatory monitoring, which will provide additional data for validating the USEPA and Canadian data bases. All of this information will be used to develop Ontario regulations, saving time and cost. The Ministry is not prepared to wait as long as it has taken in the United States to bring in rules for some industrial sectors. The effluent limits regulations will require compliance with the BAT(EA) standards as a minimum. New and expanded plants will be required to meet more stringent limits, which may be based on BADT (see text, p. 15).

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
EST AVAILABLE TECHNOLOGY CONOMICALLY ACHIEVABLE AT(EA) continued)	Approach to Setting BAT(EA) Limits (continued): ° Use of Total Loading Limits versus Concentration Limits - Eliminate concentration limits/ define BAT(EA) in terms of loading per unit of production. ° Rationale for Limits - Industry argues that environmental impact, based on a comprehensive water quality assessment process, should be the fundamental rationale for effluent limit regulations, not the best that can be achieved by technology. - The best available technology concept for effluent discharge limits may well result in over-regulation by requiring treatment for treatment's sake. - BAT(EA) standards should be required for a toxic substance only when a significant environmental impact can be identified.	The Ministry will include both concentration and total loading limits in the effluent regulations. The Ministry will define loading per unit of production, wherever possible; where this is not possible, total loading will be used. MISA is based on the goal of the virtual elimination of persistent toxics from Ontario's waterways and the achievement of no adverse water quality impacts from other toxic contaminants. This is how it will be achieved. As a first level of reduction, sector-by-sector BAT(EA) standards will be implemented, which will provide the required level of control for toxic contaminants, irrespective of water quality impact. Dischargers will then be required to conduct water quality assessments to determine if the BAT(EA) standards are sufficient for protection of water quality. In the longer term, the Ministry will also conduct periodic reviews of effluent limits at fixed time intervals, for example, every 7-10 years (appropriate interval to be determined; see text pp. 8 & 25).

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
:ST AVAILABLE TECHNOLOGY :ONOMICALLY ACHIEVABLE \T(EA) :ontinued)	° Rationale for Limits (continued) - It is unclear whether the whole thrust of the MISA program is based on a realistic evaluation of the impact on the environment or based solely on BAT(EA).	See previous page.
	- MISA should adopt a sequential approach to ultimate standard setting, by first developing numbers based on BAT(EA) for all sectors, while developing and carrying out research on water quality impact studies.	The Ministry can see no logical reason for delaying water quality assessments until BAT(EA) standards for all sectors are in place.
	° Pre-regulation Monitoring - Pre-regulation monitoring should include the following elements: *Listing of all hazardous material at each site *Effluent monitoring of all hazardous material used in industrial processes *Monitoring of all influent to STPs	During pre-regulation consultation and site vists, Ministry staff have asked for information on hazardous materials used by each company. On the basis of this and other data, chemicals for effluent monitoring are selected. Other Ministry programs require registration of hazardous material (e.g., Reg. 309). As indicated in the text, p. 26, the Ministry is conducting a survey of 40 representative STPs in Ontario. The influent at these plants will be monitored to obtain more data on the quality of influent to STPs in Ontario.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
EST AVAILABLE TECHNOLOGY CONOMICALLY ACHIEVABLE AT(EA) continued)	Pre-regulation Monitoring (continued) *Periodic verification sampling of industrial monitoring	This will be done by the Ministry as part of the pre-regulation monitoring program, as well as QA/QC checks.
	° Pre-regulation monitoring should be preceded by a one-year quality control phase to ensure reliable data.	Quality control procedures will be incorporated in the monitoring regulations and will be tested in the pre-regulation monitoring phase.
	° Monitoring Regulations	
	- Effluent Characterization	The Ministry does not agree to plant-by-plant characterization.
	- Characterization scans should be plant-specific and designed with regard to process technology employed, to avoid unnecessary expense.	Characterization will be based on identification and quantification of conventional pollutants and toxic contaminants on the provincial priority pollutant list, on a sectoral basis (see next page).
	- Frequency of characterization should be minimized. It is suggested that the appropriate frequency is once per year.	The Ministry agrees; however, we must obtain an adequate amount of data. Therefore, the more companies have done during the pre-regulation period, the more data we can use to write a cost-effective regulation. If adequate effluent characterization has been done during or prior to the pre-regulation period, in most cases, an annual characterization should be sufficient. Recharacterization would be required if a major raw material product or process change were made.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
:ST AVAILABLE TECHNOLOGY :ONOMICALLY ACHIEVABLE :T(EA) :ontinued)	Monitoring Regulations (continued)	
	- Broad brush characterization is too expensive for small industry; MISA should concentrate on priority substances.	The MISA Priority Pollutants List will be the overall basis for characterization in all sectors. However, to avoid unnecessary expense, a sector-specific sublist will be developed for each sector as the basis for characterization. A listing and de-listing mechanism is also under development.
	- Sufficient monitoring will need to be done to establish a statistically valid data base with regard to the level of contaminants and to establish control limits.	The Ministry agrees. However, it must be done in such a way as to allow regulation promulgation as scheduled in the White Paper.
	- The White Paper gives the impression that it is possible to monitor daily flows on a continuous basis to determine compliance with annual limits. Technology is not available.	As part of the MISA program development for each sector, methodologies for flow measurement will be worked out at the Technical Committee level and stipulated in the monitoring regulations.
	- Quality Assurance	
	- Validity of pollutant loading data and variability depends on quality assurance for sampling protocols. Results should be analysed in terms of statistical controls established. The Ministry audit should be used to determine whether the results are valid within those limits.	A MISA QA/QC technical document is under development and will be available for review.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
:EST AVAILABLE TECHNOLOGY :CONOMICALLY ACHIEVABLE :AT(EA) continued)	Quality Assurance (continued)	
	- Analytical validity could be affected by laboratory lag time.	The Ministry agrees and is conducting a comprehensive survey of private sector laboratory capabilities and capacity. The results should be available in Spring 1987. Sampling and analytical protocols will be designed to minimize lab lag time.
	- To ensure quality of data from stored duplicate samples and cost effectiveness of maintaining sample retention systems, the Ministry should implement a crosscheck program consisting of: a) scheduled duplication of samples to be crosschecked between labs b) unscheduled duplication of samples to crosscheck representativeness of samples	The Ministry agrees in principle and will work out cross-checking schedules as part of the auditing requirements of implementing the monitoring regulations.
	- Data Reporting	
	- To increase efficiency and accuracy in handling large amounts of data, the Ministry should require reporting to be done in hard copy in control chart format as a good method for assessing performance.	The Ministry's preference is to request industry to provide data in both hard copy and electronic format. In addition, control charts may be submitted.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
EST AVAILABLE TECHNOLOGY CONOMICALLY ACHIEVABLE AT(EA) continued)	° Effluent Limits Regulations. - Effluent limits should be defined to reflect effluent variability (i.e., fluctuations in discharges), as determined by the monitoring program.	The Ministry agrees in principle to consider effluent variability in setting effluent limits but will use multiple sources of data to determine the limits for contaminants in the effluent regulation, including: - pre-regulation monitoring data - USEPA data base and other sources - industry and Ministry data bases
	- Allow the use of control charts showing statistical definition of upper and lower limits to monitor compliance.	The Ministry agrees with the application of this approach in principle; this may be considered at the Technical Committee level.
	- Total loading limits are inappropriate for the mining sector because mining effluent systems are not necessarily a function of prime production, but rather physical site factors.	This issue should be raised in the Joint Technical Committee for the mining sector.
	- Regulations must be flexible enough to allow for unique site-specific circumstances common in the mining industry.	Allowance for unique site-specific circumstances could be considered as part of the Technical Committee deliberations.
	- For substances measured at extremely low levels, there must be a careful correlation between the statistically valid range of numbers required to develop a standard and the defined BAT(EA) technology.	Through the pre-regulation monitoring program and the monitoring regulation, a data base will be developed. These data, together with other supporting information, will provide valid numbers needed for defining BAT(EA) limits.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
EST AVAILABLE TECHNOLOGY CONOMICALLY ACHIEVABLE AT(EA) continued)	° Periodic Review of BAT(EA)/Future Load Reductions - The setting of more stringent effluent limits contradicts the principle that industries will know what is expected of them at the outset. Why spend money on technology that will be replaced in a short time?	MISA's goal is the virtual elimination of persistent toxics, and BAT(EA) effluent limits will be applied as a first step towards achieving it. Appropriate time frames for periodic revision of effluent limits have yet to be determined (See text, pp. 13 & 25).
	- The establishment of effluent limits beyond the BAT(EA), based on water quality impact, is of some concern. Once the best available technology is applied, one can do no more until new technologies become available, which leaves "economically achievable" the only area for a more stringent requirement. The imposition of more stringent requirements in some cases carries with it the potential for putting industries at a competitive disadvantage.	MISA's position in principle is that BAT(EA) standard will be the minimum level of control applied to existing plants, with economics taken into account, while new plants will be required to meet more stringent sectoral effluent limits. BAT(EA) may include a variety of measures for achieving control such as substitution of chemicals, waste reduction, in-plant treatment and recycling. It is possible that there may be economic hardship for some specific plants to meet more stringent requirements. In such cases, further socio-economic impact studies will be undertaken to assist the Cabinet in making a decision on appropriate action.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
EST AVAILABLE TECHNOLOGY CONOMICALLY ACHIEVABLE AT(EA) continued)	Periodic Review of BAT(EA)/Future Load Reductions (continued) - The technical rationale for a limit beyond BAT(EA) is difficult to appreciate. If in-place technology permits a loading constraint (defined in kg/day) to be met, then there should not be a requirement to upgrade. If it does not permit this then the discharger would be required to upgrade. If BAT economically achievable will not permit the meeting of the defined effluent loading limit, then the only option would appear to be termination of the operation.	Refer to previous response.
	- As an alternative to more stringent limits, MISA should develop an approach based on an ambient water quality criteria in conjunction with a mixing zone concept to arrive at an effluent limit; this approach should include a mechanism to ensure continual shrinking of the allowable mixing zone to zero. This results eventually in all outfalls meeting Ontario ambient water quality criteria.	This is an interesting concept, which will be considered by the Ministry as part of its "Blue Book" revision. Review of the mixing zone definition is one aspect of this activity.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
EST AVAILABLE TECHNOLOGY CONOMICALLY ACHIEVABLE AT(EA) continued)	Periodic Review of BAT(EA)/Future Load Reductions (continued).	
	- The principle of applying moving targets retroactively to existing plants creates uncertainty in project planning and can undermine the economics of an operation.	MISA's approach is to require a review of the BAT(EA) standard at fixed time intervals, which will minimize uncertainty, but not eliminate it altogether. Water quality-based effluent limits will also be periodically reviewed. In any case, this approach is not fundamentally different from the Ministry's current approach to controlling conventional pollutants - a system that industry has been using for many years, and which also results in periodic tightening of effluent limits.
	- The mining sector designs and judges plant feasibility on the basis of a fixed operating life and knowledge of all the costs at the beginning. The government is asking the mining industry to assume an unacceptable level of risk by imposing further pollution reductions.	
	May be appropriate to apply more stringent criteria to new plants.	This is MISA's policy (see text, p. 15 and Appendix 2, p. 9).
	• BAT(EA) should be applied to new plants and an automatic review of standards should not apply to existing plants.	See as above.
	• The White Paper does not indicate how a periodic review will be triggered and administered, or how subsequent technology changes will be incorporated. Review periods should be stipulated in a company's discharge permit.	The periodic review requirement will be put into the effluent limits regulations. In addition, "re-opener" clauses will invoke an immediate review requirement in cases of significant environmental impacts (see text, p. 25).

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
:ST AVAILABLE TECHNOLOGY :ONOMICALLY ACHIEVABLE .T(EA) ontinued)	° Implementation of BAT(EA)	
	- Industries and municipalities must obtain a C of A for the technology employed, so the Ministry has control over method to achieve limits. This apparently contradicts the Ministry's position in the White Paper that industries should be able to choose the technology to meet effluent limits.	The Ministry will not generally dictate technologies; it simply checks that the proposed equipment and process will be able to meet specified effluent limits (see text, p. 12, for exceptions).
	° In the mining industry, where unique conditions exist at each site, each site must be evaluated individually to determine effluent limits.	The MISA approach is to apply BAT(EA) standards on a sector and sub-sector basis, where feasible. Allowance for unique site-specific circumstances could be considered as part of the Technical Committee deliberations. The water quality-based effluent limits will be site-specific.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
UBLIC PARTICIPATION/ ONSULTATIVE PROCESS	- The consultative process must include waste management industry.	Technical experts from this sector will be consulted as needed to provide input on waste disposal issues.
	- Elements which should be included in the consultative standard setting processes are:	
	- scientifically defensible standards based on realistic assessment of water quality	The Ministry is developing a MISA Priority Pollutants List for this purpose (see text, p. 53).
	- realistic and equitable timetable to research and develop standards and to implement controls	See MISA Schedule, text, p. 49.
	- The Municipal Engineers Association (MEA) does not represent all municipalities.	This point will be addressed at the Ministry/Environment Canada/MEA Technical Committee to see if further representation "from non-represented" municipalities is necessary. The Association of Municipalities of Ontario (AMO) will represent municipalities on the MISA Advisory Committee when the municipal sector monitoring and effluent limits regulations are being reviewed by the Committee.
	- Monitoring	
	- It is recommended that the public become involved in the monitoring program and reporting of spills as follows:	

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
PUBLIC PARTICIPATION/ CONSULTATIVE PROCESS (continued)	Monitoring (continued) - Public education on regulations and of conditions placed on dischargers.	The Ministry will take appropriate steps to ensure the public is informed about the regulations, contaminants data, and the dischargers' abatement programs and their compliance status, etc., by, for example, newsletter, conferences, workshops, review of draft regulations, reports, etc. It is anticipated that the MISA Advisory Committee may also play an important role in this regard.
	- There should be a 24-hour confidential reporting hotline.	For reporting violations and spills, the Ministry has established the Spills Action Centre, which provides 24-hour access to any individual for reporting spills.
	- Employees of companies who report violations or spills should have the power to do so, without punitive consequences. Joint union-company environmental councils should be created, similar to the requirements of the Occupational Health and Safety Act, with respect health and safety committees.	Under Section 134b, (1) and (2), of the Environmental Protection Act, no employer shall dismiss an employee fo complying with: 1. Environmental Assessment Act 2. Environmental Protection Act 3. Federal Fisheries Act 4. Ontario Water Resources Act 5. Pesticides Act The Ministry considers these provisions to be adequate at this time. Further measures may be considered during the implementation of MISA.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
UBLIC PARTICIPATION/ ONSULTATIVE PROCESS continued)	° Approvals Process	
	- Open the approval process to the public and guarantee participation. The Ministry should extend the current practice of public comment on COs to allow interest groups to become involved in the negotiations when C of As and COs are developed. The exclusion of the public from the abatement and enforcement process is inconsistent with MISA's professed emphasis on the importance of public participation.	The Ministry is currently conducting a trial test of several C of As to determine the feasibility of public involvement in the approval process.
	- The public should be allowed to appeal C of As if these are inadequate.	The Ministry is taking this suggestion under consideration in the committee reviewing the Ministry's approvals process. The committee is known as MOCA (Ministry's Orders and Certificates of Approval Committee).
	° MISA Advisory Committee	
	- The MISA Advisory Committee should develop public consultation and participation programs to ensure full public support for and awareness of MISA	This suggestion will be considered by the MISA Advisory Committee (see text, p. 28).

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
JNICIPAL SECTOR EGULATIONS	- Evidence indicates that some STPs are worse polluters than industry, which is controlled. Why does the Ministry then not direct its efforts at municipalities first?	See Sewer Use Control Study, pp. 35 - 37 of text regarding reasons for timing of municipal sector regulations.
	- Municipalities do not appear to be included in the pre-regulation monitoring phase. Municipalities need to know whether the Ministry will deal with indirect dischargers or leave it up to them.	The sectoral Technical Committee is the vehicle for pre-regulation consultation with municipalities. Two studies are being carried out under this committee in the pre-regulation monitoring phase - the 40 STP survey and the Sewer Use Control Study. The results of these studies, together with municipal sector economic impact studies, will help the Technical Committee determine how MISA will deal with indirect discharges.
	° Sewer Use Bylaw.	
	- It appears that MISA will require municipalities to control indirect dischargers without adequate provisions to ensure compliance (i.e., monitoring and effluent regulations and control documents).	All of the following municipal sector concerns are addressed by the Sewer Use Control Study, described in the text on pp. 35 - 37.
	- Municipalities need an improved ability to require indirect dischargers to monitor and control their discharges.	

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
UNICIPAL SECTOR EGULATIONS (continued)	Sewer Use Bylaw (continued) - Municipal bylaw development should be consistent with overall provincial abatement and compliance strategy. - If a toxic substance cannot be treated by an STP, then it should be prohibited from entering the sewer system. ° Pre-Treatment and Sewer Dischargers - Upgrading STPs without pre-treatment will result in an inefficient expenditure of funds, since some toxics will be passed to the environment. - Most municipalities are incapable of enforcing even a minimal list of priority pollutants through existing bylaws, which are largely ineffective for controlling toxic contaminants. ° Municipalities can enter into agreements with industry that permit discharges of toxics for a fee paid to the municipality in advance.	

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
UNICIPAL SECTOR EGULATIONS (continued)	Pre-Treatment and Sewer Dischargers (continued). ° It is apparent that the Ministry will set performance limits for STPs, and expect municipalities to trace problem dischargers back up the sewer system. This could be very expensive for municipalities. Furthermore, it is likely that municipalities will not be able to trace illegal dumping of toxics to its source, but the municipality will remain liable for fines specified in the Environmental Protection Act. The Association of Municipalities of Ontario recommends that all direct and indirect discharges be required to monitor and/or treat their wastes at sources. - Industries discharging into sewer systems contribute as much pollution as direct dischargers. - Pre-treatment requirements for industrial dischargers to municipal sewer systems may not be cost-effective. The Ministry should consider the economics of sewage treatment plant upgrading when many companies discharge versus the costs of individual industrial pre-treatment plants.	

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
MUNICIPAL SECTOR REGULATION (continued)	Pretreatment and Sewer Dischargers (continued) - It is unclear who will establish limitations on dischargers to sewer systems: municipalities or the Ministry. If municipalities, then uniformity should be ensured. ° Storm Sewers - MISA's proposal to regulate STPs at the end of the pipe does not extend to storm sewers. These storm sewer sources should be regulated as point source polluters.	Storm sewers are a municipal responsibility, but the Ministry is involved in terms of developing guidelines, policies and programs (e.g., Urban Drainage Program, combined sewer overflows, infrastructure rehabilitation, etc.), many of which are cost-shared with other Ministries and municipalities. At this stage, controlling toxic discharges from STPs is the first priority under MISA; at some point, regulating municipal storm sewers under the MISA program will also be considered.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
BATEMENT AND NFORCEMENT	° General Comments	
	- A reasonable compliance period should be determined by an Environmental Control Commission.	A reasonable time period has already been established by the Ministry as specified in its Uniform Enforcement Policy (see text, p. 38).
	- The MISA approach to abatement and enforcement is consistent with the latest thinking in control theory (i.e., before-the-fact, preventative approach).	
	° The Ministry's screening of monitoring data submitted by dischargers is likely to be the most effective of the three methods used to detect violations, as described in MISA. The MISA White Paper is unclear on how monitoring will be done.	The Ministry will use all three methods, as described in the White Paper. The specific monitoring requirements for each sector will be worked out at the Technical Committee level.
	- Unscheduled monitoring, to be fully effective, should include around the clock and weekend inspections.	This will be done subject to resource limitations.
	° The AMO recommends that enforcement of pollution control standards for municipalities be extended until such time that provincial financial support is confirmed.	This recommendation should be addressed at the Joint Ministry/EC/MEA Municipal Sector Technical Committee.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
BATEMENT AND NFORCEMENT continued)	° Prosecution Concerns	
	- "The use of the power of law ... to address extreme situations involving real potential for environmental damage is supported. ... Punitive measures for minor situations are not ... in the best interest of sustained environmental improvement."	The Ministry will evaluate violations in terms of type, severity, frequency, actual and potential environmental damage and historical performance of the discharger, to determine the appropriate enforcement actions.
	- Companies should not be allowed to discharge for profit at the expense of the taxpayer. Jail sentences are appropriate upon conviction.	The appropriate penalty provisions of the Environmental Protection Act will be applied by the courts upon conviction of companies for discharge violations.
	- When violations are discovered, the Ministry must prosecute, not negotiate the chance for further clean-ups with industry.	The Ministry will continue to exercise prosecutorial discretion.
	- Under the MISA regulations, will a company be open to litigation by an individual or an interest group?	Under the Environmental Protection Act, which is the enabling legislation for the MISA regulations, an individual or an interest group may take legal action against a company for violations under the Act.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
ABATEMENT AND ENFORCEMENT (continued)	° Control Documents	
	- Under the OWR Act and EP Act, an approval is required only if there is an intention to construct a new facility or change an existing plant, which will result in the release of a contaminant. Existing polluters do not require an approval. The MISA White Paper does not make clear whether all operations (i.e., existing and new) with the potential to cause harm to the environment will be required under MISA to obtain a C of A.	All point sources will come under the sectoral regulations, irrespective of whether they have a C of A. If a violation occurs, then abatement and enforcement actions will be taken. These abatement actions will be effected by the issuance of a C of A or Control Order.
	- The Ministry must explain the statement, "When issued, the certificate of approval replaces other control documents if their terms are fulfilled by the proposed works." (See White Paper p. 49) There is a perceived potential for an uncontrolled transition period.	If other control documents are in place when the regulations are promulgated then there will be no gap. If there are no documents in place, or the terms of a document are not fulfilled when a regulation is promulgated or a Control Order lapses, then dischargers will be subject to prosecution. If there is a gap, then it is one that does not allow immunity from prosecution in that situation.
	° The statement "Certificates of Approval will have a general requirement to operate a facility in an efficient manner", should be clarified (see White Paper, p. 49).	Most existing C of As merely approve the works and do not require the plant to operate in a particular manner. Recently, detailed operating performance requirements have begun to be included in C of As.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
ABATEMENT AND ENFORCEMENT (continued)	Control Documents (continued)	
	- When a limit is exceeded, MISA should use some form of progressive or tiered approach which is geared to the magnitude and environmental impact of the exceedence, and takes into consideration the discharger's historical performance.	The Ministry's Uniform Enforcement Policy refers to the use of prosecutorial discretion for enforcement. The Ministry is considering development of an abatement manual outlining actions to be taken by the Ministry and industries/municipalities in response to violations.
	- The EP Act should be changed to allow abatement requirements in COs to be amended for discharges which pose a significant risk or for those known to be harmful.	The Ministry will consider this suggestion. It would seem reasonable in cases where new information comes to light that was not available in the original CO-setting process.
	- Some municipalities are unclear whether provincial level regulations will impact on the ability of municipalities to issue Program Approvals to local industries, carry out inspections, or enforce by-laws.	The Ministry will have a better idea of the regulations' impact, as noted in the concern, when the the Sewer Use Control Study is completed.
	- The MISA approach could lead to difficulties in prosecuting violators, who although in exceedence of daily limits, can argue that the annual limit will not be exceeded.	Violation will be defined in the sectoral Effluent Limit Regulations. Any violation of a limit - daily or otherwise - is subject to potential prosecution. Dischargers have the right to state their case in court the way they wish, if the Ministry prosecutes.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
ATER QUALITY IMPACT TUDIES/BIOMONITORING	° Dischargers and Government's Role	
	- The criteria for assessments are not stated in the White Paper so costs cannot be determined.	The Ministry has initiated a pilot site studies program, which will provide this cost information.
	- Why should industry pay for the acquisition of data that the Ministry will use to set water quality limits?	The Ministry is unable to assume this responsibility for every discharger in the province. Since dischargers are the source of the problem, it is not unreasonable to expect them to assume responsibility for water quality studies, as has been done in the past (see text, p. 45).
	- The discharger is put in the position of having to define water quality-based effluent limits.	Water quality objectives (ambient) are established by the Ministry independent of site-specific assessments. The latter may be necessary to confirm an adequate level of compliance with the objectives and to demonstrate that unacceptable biological or other impacts are not recurring.
	- It is virtually impossible for the discharger to prove "no effect".	The Ministry will establish fair and reasonable procedures for biomonitoring and assessment.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
ATER QUALITY IMPACT TUDIES/BIOMONITORING :ontinued)	Dischargers and Government's Role (continued)	
	- Even with clearly defined protocols, it is difficult to ensure consistency.	The Ministry will do its best to ensure consistency is achieved. This is an open ended argument because methods can always be improved.
	° Approach to Setting Water Quality-Based Limits	
	- A requirement to develop water quality-based limits should be used only in special circumstances (e.g., multiple users, special downstream uses such as recreation, drinking water, or unique habitat).	Water quality-based effluent limits will be required wherever BAT(EA) standards are insufficient to protect water quality for the designated most sensitive use.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
TER QUALITY IMPACT JDIES/BIOMONITORING ontinued)	Approach to Setting Water Quality-Based Limits (continued) - The MISA water quality approach recognizes differences between water bodies, but site-specific water quality limits will not allow for the application of an ecosystem approach, to assess whole water - body effects. Present PWQOs are inadequate as ambient water quality standards, but at least provide a common basis throughout the province. It is perceived that the use of site-specific water quality limits will remove the common basis inherent in PWQOs. In addition, MISA does not describe the standard setting process for setting local water quality limits. It may be desirable to have a standard setting process for toxics, applicable across the Province, equivalent to Provincial Water Quality Objectives (PWQO).	The Ministry is reviewing existing water management policies, including the development of additional ambient water quality objectives for toxics. PWQOs will be developed as a priority for all substances on the MISA Priority Pollutants List. PWQOs are scientifically sound criteria that will afford protection to aquatic life and other uses. They can be the basis for setting effluent loadings or concentration limits in control documents; the limits thereby become legally enforceable. The Ministry will continue to apply PWQOs evenly across the province. Site-specific requirements based on protection of water quality will take PWQOs into account but will also assess the integrated effects of these in the specific ecosystem that is being discharged to. Studies are being initiated to develop predictive models for whole-lake effects within which the cumulative benefits of site-specific controls can be evaluated.
	- The setting of water quality-based effluent limits must include a mechanism for scientific review and consultation with affected parties.	The Ministry agrees, and will do so.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
WATER QUALITY IMPACT STUDIES/BIOMONITORING (continued)	Approach to Setting Water Quality-Based Limits (continued) - What does the Ministry mean by "assimilative capacity?" - Effluent limits should be based on water quality considerations, not economics.	Assimilative Capacity is the ability of a waterbody to transform and/or incorporate substances (e.g., nutrients) by the ecosystem such that the water quality does not degrade below acceptable levels. The factors considered in establishing the BAT(EA) level of control include: the costs of applying the control technology, the age of process equipment and facilities, the process employed, process changes, the nature and volume of discharges and the environmental effects of pollutants. If BAT(EA) is insufficient to protect water quality, more stringent water quality-based effluent limits will be applied as identified through water quality impact assessments. Under no circumstances, however, will the water quality-based assessment result in a relaxation of BAT(EA). BAT(EA) is the baseline performance standard, irrespective of "assimilative capacity".

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
ATER QUALITY IMPACT TUDIES/BIOMONITORING continued)	Approach to Setting Water Quality-Based Limits (continued) - In view of the fact that some Great Lakes States have found it necessary to impose more rigorous than BAT(EA) water quality standards, it would be prudent to put more emphasis on water quality studies during the MISA development phase (i.e., move timetable for water quality assessments by dischargers forward to coincide with pilot site studies). ° Methodology Concerns - Data on potential environmental effects of pulp and paper mill effluents are inadequate for setting standards for (a) receiving water quality and (b) establishing effluent regulations.	In the MISA program, pilot site studies precede water quality assessments by dischargers to allow time for the development of standardized modelling, assessment and biomonitoring techniques, which can then be applied by dischargers in conducting their own studies. The majority of pulp and paper dischargers in Ontario have effluents that contain a variety of toxic chemicals which can seriously degrade receiving waters. There are many years' worth of both industry and Ministry data to demonstrate this. More data will be obtained during the MISA process for this sector as follows: - pre-regulation consultation and monitoring - regulatory monitoring - pilot site studies - USEPA data base - other sources

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
/ATER QUALITY IMPACT :TUDIES/BIOMONITORING continued)	Approach to Setting Water Quality-Based Limits (continued) - Biomonitoring tests can be used as a screening tool only to help in the assessment of water quality, not as a basis for setting effluent limits, because there is a lack of standardization in these tests as yet.	The 96-hour LC_{50} test using rainbow trout has an excellent history and track record. This and other biological tests are excellent tools for determining the integrated effects of effluents on receiving waters. An aquatic toxicity requirement fits in very well with MISA's goal of the virtual elimination of toxic substances. Furthermore, biomonitoring procedures such as caged fish studies or ambient biota uptake studies can be used to assess the areal extent of discharge effects. If discharge effects are excessive, tighter effluent limits will be in order and these can be developed using a number of techniques including dispersion and fate-transport models. The Ministry and the sectoral Technical Committee will consider the use of biomonitoring for effluent monitoring and the setting of effluent limits.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
'ATER QUALITY IMPACT :TUDIES/BIOMONITORING continued)	Approach to Setting Water Quality-Based Limits (continued) - Toxicity testing methods for analyzing effluents, including mutagenicity testing, are not proven. Ambient toxicity testing (i.e., using organisms as indicators of water quality impact) should not be used since it may not correspond to effluent toxicity.	Many toxicity testing methods have been in the world scientific literature for years and, in some cases, decades. Of course there is always healthy scientific debate over details but it is unwise to generalize and dismiss toxicity testing, as a whole, when the debate should be addressing specific aspects of it. It is essential to have both laboratory effluent characterization bioassessment techniques (where confounding variables can be controlled) and field biomonitoring (where confounding variables can be assessed) as part of this process. Furthermore, pilot site studies being carried out as part of MISA will include the evaluation of toxicity, bioaccumulation and genotoxicity assessment procedures, both ambient and using effluent samples. Studies carried out by the USEPA on toxicity of effluents and biological diversity in the receiving water environment have correlated very well. The Ministry is currently developing a battery of genotoxicity tests and is evaluating the significance and possible causes of fish tumours in order to better establish the validity of this type of assessment.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
ŃVIRONMENTAL CONTROL ›MMISSION (ECC)	- It is recommended that an ECC be established, having wide-ranging powers to oversee all aspects of MISA, as follows: *initiate and confirm an ongoing complete industrial hazardous waste audit *determine Quality Assurance/Quality Control for monitoring/sampling/ abatement procedures and laboratory analytical standards *hire or fire any member of the bureaucracy involved in abatement processes - Every public representative on the technical committee and on the ECC shall: *ensure that the overall goal and commitment of each technical committee is zero discharge (recognizing that for practical purposes zero discharge means no detectable limits *ensure that industries in all eight targetted sectors are put on a scheduled timeframe to reduce their toxic emissions to zero	See text, p. 48.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
NVIRONMENTAL CONTROL OMMISSION (ECC) :ontinued)	*determine if each technical committee has specified the appropriate processes to achieve the zero discharge goal for its sector *determine precisely when each technical committee will be prepared to advise on the drafting of regulations, including a scheduled timeframe, to achieve the zero discharge goal - ECC shall also: *define Best Management Practices for each sector *advise the Ministry on conduct of spotchecks, e.g., on-site visits *advise the Ministry on what is a reasonable time to comply with the abatement requests *advise the Ministry on its proper exercise of "prosecutional discretion" *supervise water quality impact studies	

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
1ISA SCHEDULE	- MISA has no target date when industries must cease and desist toxic pollution.	Taraget dates for successive stages of abatement by industries will be developed in the course of implementing MISA.
	- In light of delays in implementation in the U.S., is the Ministry allocating resources necessary to meet the timetable?	The Ministry has and will continue to allocate the resources necessary to achieve MISA's goal.
	- Toxic pollution of the St. Clair River can continue for 2 more years under the MISA schedule.	As a result of the joint Federal - Provincial report on an investigation of St. Clair River pollution (January, 1986), abatement activities are already underway. Also, the ongoing Canada - U.S. Upper Great Lakes Connecting Channels Study will provide the basis for further corrective measures.
	- The timetable for effluent regulation implementation is questionable. If a regulation for a sector is to be reasonable and acceptable, the Ministry must assure sound statistical treatment of data generated during the monitoring regulation.	The Ministry is confident that with cooperation from dischargers, the available information can be utilized and soundly treated to produce reasonable and acceptable effluent regulations within the MISA time frame.
	- The Ministry must adopt a legislative requirement which provides no exemptions of the deadlines established in the White Paper.	The Ministry is committed to meeting the schedule laid out in the White Paper (see MISA Schedule, text, p. 49).

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
SA'S GOAL/STRATEGY	- The goal of virtual elimination is supported in principle, but absolute elimination may be technically impossible, as the ability to detect in minute quantities is constantly changing.	The Ministry agrees, but we will continue to strive for virtual elimination.
	- The MISA program appears to be a panic reaction to new measurement capabilities. A useful interim step would have been to update the existing pollution standards by adding new substances of concern and setting new limits for all parameters in accordance with the technology now available. This would probably have given a quicker and more easily understood start into this program.	The Ministry believes that MISA is a response to a real environmental problem. Some contaminants in the environment, even in very low concentrations, pose a threat to human health and could result in damage to the environment.
	- The development and implementation of MISA strategy rests much too heavily with industry, i.e., self monitoring, developing BAT(EA), etc.	MISA is a wide-ranging and comprehensive program and it requires the co-operation of municipalities and industries to achieve its goal. The Ministry will ensure that effective abatement and enforcement mechanisms are in place to detect violations.
	- There must be sufficiently powerful legislation to guarantee that industry does not allow any hazardous material to enter any waterway by any means. MISA does not mention controls for provincial or federal operations.	This is the objective of MISA, but cannot be guaranteed absolutely. Under Section 19 of the Environmental Protection Act, MISA regulations will bind the Crown. The Ministry will work closely with Environment Canada to ensure that similar requirements will apply to Federal operations.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
ISA'S GOAL/STRATEGY Continued)	MISA should include a transboundary pollution component based on consultation with bordering States to resolve water pollution management problems.	Although MISA does not contain a specific transboundary component, the Ministry has been involved in transboundary activities. As a party to the Great Lakes Water Quality Agreement (1978), the Ministry has put in place programs designed to meet its requirements under this agreement. More recently, the Ministry signed an agreement to put in place an "action plan" for the Niagara River. Furthermore, the Ministry is working closely with officials from Michigan and the USEPA on the Upper Great Lakes Connecting Channel Studies. Also, a Memorandum of Understanding on controlling transboundary pollution, involving Ontario, Quebec and the Great Lakes states, is under development.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
EGISLATIVE ASPECTS	- The EP Act, Section 136(1), has no authority to allow setting of regulations, i.e., BAT(EA) regulations, on the basis of economic considerations. This would require a specific amendment to the legislation.	Under Section 136(1) of the EP Act, the Ministry has the authority to develop the MISA regulations. In developing the regulations, the Ministry may take whatever necessary, reasonable steps are required to determine the appropriate terms of the regulations.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
RIORITY POLLUTANTS LIST/ HEMICAL INVENTORY	Priority Pollutant List - One concern referred to the need to develop an inventory of contaminants of concern and ashort list of "major specific toxic pollutants". The short list needs to be defined more clearly. Criteria for listing target compounds may not be comprehensive since there are more compounds than those which have "passed" toxicity tests. What about synergistic effects? USEPA toxicity models, e.g., QSAR, should be applied to determine the toxicity of priority compounds. - Abatement should be based on all pollutants, not just "major specific toxic pollutants". - For each item on the priority pollutants list, specific control programs should be developed, backed up with scientific and technical rationale. - The priority pollutant list developed for industry should be applied to STPs by means of municipal by-laws.	A short list of contaminants are "candidates for control", which will be selected for appropriateness to the industrial sector or plant location, potential for hazard in the receiving environment, availability of analytical protocols, and suitability to serve as indicators of the control status of other similar contaminants. The criteria for listing priority compounds will be described in the MISA Priority Pollutants List (see text, p. 53). Synergistic effects, QSAR modelling, etc., could also be considered in developing the list. Through the control of properly selected key pollutants, all other toxics of concern will also be controlled. The BAT(EA) approach will identify specific control units for those substances present or likely to be present in each effluent. The MISA Priority Pollutants List provides the scientific rationale for substances to be controlled. The MISA Priority Pollutants List will apply to municipal STP effluents.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
:IORITY POLLUTANT LIST/ :EMICAL INVENTORY :ontinued)	Chemical Inventory - Under MISA all industries must be required to prepare an inventory of chemicals stored at their plant and the method in which the chemicals are disposed of, and advise of all chemicals discharged into sewer systems. - Municipal sewage treatment systems should identify all industrial discharges, total flow and chemicals present.	The Ministry agrees with this suggestion, and will ask the sectoral Technical Committees to consider details of implementing it. Part of this suggestion has already been carried out under the provisions of Regulation 309 (see Appendix 2, p. 4) As part of the 40 STPs survey, a computerized inventory of industries discharging into affected sewer systems is to be established. Standardized procedures developed during the survey will assist other municipalities to carry out their own sewer use inventory.

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
)ATA CONFIDENTIALITY	- Data relating to final effluents should be available to public, with scientific interpretation by government. Companies should have the opportunity to provide their own interpretation along with the government's.	Effluent data with the accompanying interpretation will be available to the public.
	- The Ministry is "complicit" in retaining confidential information regarding industries current effluent monitoring program.	Data regarding contaminant discharges to the environment are public information. Industrial proprietary information will remain confidential (see text, p. 55).
	- Only data required to carry out an assessment of emissions from a plant should be required by government.	The Ministry may require certain proprietary information in the course of implementing MISA. This information will remain confidential.
	- There is no need for the Ministry to require proprietary process details; the following criteria are recommended:	See above response.
	*data on effluents leaving property boundaries should be public information	This will be discussed by the sectoral Technical Committees. In cases where there is a direct discharge without treatment, the release of such information to the public may be justified.
	*data on internal sewer systems leading to an outfall should be available to the Ministry on a confidential basis	

SPECIFIC COMMENTS ON MAJOR ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
DATA CONFIDENTIALITY (continued)	Process information prior to first discharge point remain with the company only but open for review by the Ministry at the plant site. Information currently collected to enforce sewer use bylaw is kept confidential and, if available to the public, it may be used by competing industries.	As noted above, the Ministry may retain this information on file on a confidential basis. All information relating to municipal STP effluents will be available to the public. Information on discharges to sewers collected by municipalities is their data; the possible public release of these data will be discussed by the sectoral Technical Committee.

APPENDIX 3

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES AND MINISTRY RESPONSES

MAJOR ISSUES	CONCERNS	MINISTRY RESPONSE
ECONOMIC IMPACT OF MISA	Industry	
	- Implementation of regulations must take into account a firm's position in international markets and impact on product buyers. More stringent regulatory requirements in Ontario than elsewhere could have a detrimental impact on the economic position of Ontario's industry.	The White Paper states that the Ministry will carry out socio-economic studies in each industrial sector to determine the impact of implementing MISA. The results of these studies will be one of the factors considered by the sectoral Technical Committees, the MISA Advisory Committee, and the Government, with public input, in developing regulations.
	- Will there be financial assistance to industry in cases where compliance may cause economic hardship or cause termination of an operation?	The results of the socio-economic impact studies will be one of the factors considered by the Ministry and the Cabinet in evaluating all alternative courses of action in cases of economic hardship, including providing financial assistance.
	- The effect of MISA on small and medium industries is undefined. They may require assistance and considerable lead-in time for implementing effluent regulations.	The sectoral economic impact studies and the Sewer Use Control Study will consider the impact on small and medium industries. Other measures, including assistance and lead-in time for regulation implementation, will also be considered.

OTHER ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
ECONOMIC IMPACT OF MISA (continued)	Industry (continued)	
	- Government should consider total impact of all actions on industrial activity (i.e., Regs. 308 and 309, pay equity, etc.)	The total impact of all factors is taken into account when the Minister and the Cabinet consider the regulations.
	- The application of universal (BAT(EA) standards in the steel sector, could mean installation of costly retrofits on each process control, which could impact on the industry's cost competitiveness.	This position should be tabled at the sectoral Technical Committee for the Iron and Steel sector. The Ministry will not speculate on the BAT(EA) details for this sector at this stage.
	° Municipalities	
	- Additional areas of cost increases of high concern:	
	*additional laboratory loads	The Ministry is aware of municipal concerns regarding cost. Cost issues will be more clearly defined by the Sewer Use Control Study and the municipal sector economic impact study (see text, pp. 22, 35 - 37).
	*tracing objectionable discharges in the system	
	*conducting water quality impact studies	
	- On the latter point, AMO recommends the Ministry assume responsibility for water quality studies, as has been done in the past.	Water quality impact studies in the vicinity of effluent outfalls will be the responsibility of the dischargers. The Ministry will provide assistance, planning, and coordination.

OTHER ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
ONOMIC IMPACT OF MISA ontinued)	Municipalities (continued)	
	- MISA will impose an additional cost on taxpayers on top of existing MOE programs.	Refer to the first response under Municipalities on previous page.
	- It is unfair to impose greater spending on municipalities. The level of government initiating the legislation should carry the cost burden.	Refer to the first response under Municipalities on previous page.
	- Will the Ministry be prepared to continue its 15 per cent grant toward regional treatment facilities?	The existing Ministry Capital Construction Grant Program is reviewed from time to time, but there is no thought to discontinue grants at this stage.
	- How much will MISA cost and what is the split between all levels of government.	Until the socio-economic impact studies have been completed, no accurate figure of the total cost of MISA can be calcuated.
	- AMO supports the Ministry's call for federal financial support to rehabilitate municipal treatment systems. Federal and provincial support for all phases of MISA is recommended.	As mentioned on p. 33 of the text, the Ministry will consider financial assistance to municipalities. The Ministry will approach the Federal government and start discussions on financial support at the appropriate time.

OTHER ISSUES AND MINISTRY RESPONSES

MAJOR ISSUE	CONCERNS	MINISTRY RESPONSE
ECONOMIC IMPACT OF MISA (continued)	Municipalities (continued)	
	- AMO urges the Ministry to recognize the economic disadvantage on firms wishing to locate in Ontario, relative to bordering jurisdictions. Assistance should be considered or the Province should negotiate with bordering jurisdictions to enact similar regulations.	Firms located in the Great Lakes States will be subject to the U.S. federal water protection legislation/ regulations, administered by the USEPA, and State agencies. In addition, some States (e.g., Michigan have stringent water quality-based effluent limits. It is anticipated that the Canadian federal government will review the suitability of Ontario's approach for other provinces.
	° Environmental Groups	
	- The ability to absorb the cost of abatement could be a limiting factor to the rate of implementation. It appears the Ministry has given little thought on the ability of polluters to pay, and the implications of this on achieving MISA's goal. MISA has failed in the area of addressing costs.	The MISA White Paper is a policy pape describing the government's intent. Cost is an important issue that will be addressed in detail prior to the promulgation of regulations.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
EST MANAGEMENT PRACTICES BMP)	- Development and implementation is responsiblity of industry; government's role is to set BMP standards.	BMP will be required as part of implementing BAT(EA). BMP guidelines will be defined for each sector by the sectoral Technical Committees, but specific details for each site will not be specified. The method of implementation is up to each company.
	- Unique conditions at each site must be considered in developing BMP.	
	- Definition of BMP is required.	A definition is under development.
	- Strict BMP must be made a central component of MISA, as well as back-up mechanisms to prevent spills from reaching waterways.	The Ministry agrees and that is why BMP will be defined for each sector.
	- BMP would not appear to offer any improvement in curbing spills. A pipeline from Lake Huron to Dresden and Wallaceburg would alleviate concern regarding St. Clair River drinking water.	BMP will improve the ability to curb spills. The Ministry will consider providing financial assistance for the construction of such a pipeline.
ATA BASE DEVELOPMENT	- The Ministry's data base should include data from a complete hazardous waste audit of each discharger.	Data on effluent characterization from each plant will be included in the Ministry's data base.
	- The MISA data base should be integrated with the Reg. 309 data base to give a comprehensive picture of industrial wastes generated in Ontario. It should include data on approvals for air releases, industrial processes and levels of treatment for calcluating inputs and outputs.	The Ministry is taking steps to integrate the air, water and waste management data bases.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
OCIO-ECONOMIC STUDIES	- At what level of detail will these studies be done; this is not indicated in MISA?	See text, pp. 21, 22.
	- Studies should include the long-term economic benefits of controlling toxics.	Information on the benefits of effluent reductions will be gathered as part of the socio-economic studies for MISA.
	- Economic factors should not override health considerations.	The Ministry agrees.
	- Economic studies may not prevent intersector inequities. Therefore MISA should first develop effluent limits based on water quality impact and from this develop a compliance schedule for each industry in a sector to meet those limits. This would ensure both inter and intra-sectoral fairness as compliance costs could be estimated over a predefined time span.	See text, p. 8 for comments on the principles underlying the MISA approach.
	- The Ministry should provide information on the cost of MISA as soon as possible for public comment.	This information will be available for each sector when the socio-economic impact studies have been completed.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
SOCIO-ECONOMIC STUDIES (continued)	- AMO recommends that the words "economically achievable" not be lost when determining the technology required for abatement (i.e., White Paper dropped EA part from the BAT acronym).	How the Ministry will determine "economically achievable" is outlined on pages 21 and 21 in the text.
	- Economically achievable should be defined on a plant-by-plant basis, not sectorally. If economic impacts are averaged for a sector, then some firms that could afford more pollution control, will be allowed to install lesser controls.	As described on pages 21 and 22 of the text, the Ministry will evaluate the relevant costs associated with implementing abatement technologi in each sector, examine the economic impacts on firms in each sector, and analyse the provincial impacts. The burden of proof will be on the discharger, if that discharger cannot afford the required sectoral level of control. It should be borne in mind, however, that the first objective of BAT(EA) is to achieve control of toxic contaminants.
	- Development of what "economically achievable" means should include a consideration of the costs associated with continued/increased pollution (i.e., economic analysis of business-as-usual scenario).	The issue of costs associated with continuing present pollution levels, or alternatively, the benefits of reducing present levels of pollution, will be considered in carrying out an assessment of economic implications of MISA.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
.UE BOOK REVISION	- There is no provision for input from non- governmental sources.	The method for securing public understanding of and feedback on the Blue Book revision process is currently under review.
	- The PWQO's requires updating with respect to toxics.	Development of new PWQOs is a continuing process. Completion of the MISA Priority Pollutants List will help focus this effort.
	- The Ministry should retain Policy 2 in Blue Book regarding deviation from water quality objectives for an "exception case".	Policies 1 and 2 are under review to determine what changes, if any, are needed to support MISA. The Ministry will solicit the views of industries, environmental groups and municipal associations.
	- The mixing zone concept is a contradiction of the aim of MISA, that of moving awey from a policy based on dilution. This concept should be abolished. Compliance should be measured at the end of the pipe.	Virtual elimination of toxics is the long-term goal of MISA. In the interim, for situations where more stringent limits than technology-based (BAT) limits are required, the mixing zone approach may be used in determining water quality-based effluent limits. A policy and improved procedures for determining the acceptable size of mixing zones on a site specific basis are under development.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
ION-POINT SOURCES/ ECOSYSTEM APPROACH	Strategies to control agricultural sources, old industrial sites, waste dumps and other non-point sources should be proposed by MISA.	The Ministry continues to conduct programs to deal with these problems; these programs complement the MISA program, e.g., for agricultural non-point sources: Ontario Soil Conservation Environmental Protection Assistance Program; for urban non-point sources: Toronto Area Watershed Management Study; for waste dumps: Waste Site Evaluation and Monitoring Program.
	The ecosystem approach should become the basis for program development and evaluation and research in the future. MISA should address total loadings through control of atmospheric deposition, run-off (urban and agriculture), loadings from other jurisdictions. This is the approach adopted by the Great Lakes Waters Quality Agreement.	Refer to above response and text, pp. 16 - 18.
ONTROL OF CONVENTIONAL OLLUTANTS	Expenditures on projects to control conventional pollutants in the forest industry has also reduced discharges of toxic compounds such as heavy metals, PCB's and pesticides. The industry wants recognition for its accomplishments in reducing toxic pollution as well.	The Ministry agrees that control of conventional pollutants has resulted in some control of toxic contaminants. The primary purpose of MISA is to improve the existing level of control for toxic contaminants.
	Conventional pollutants are being controlled in the steel sector as a result of pollution control expenditures; therefore MISA should focus on controlling toxics.	This is precisely the goal of the MISA program. It is expected that the BAT(EA) effluent limits will provide additional control of conventional pollutants.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
TOXIC POLLUTION	- The MISA White Paper gives no indication of which toxics it is dealing with, or how persistence will be defined. These chemicals (i.e., persistent, known to be harmful, mutagenic or carcinogenic) should be the main thrust of the program.	See discussion of MISA Priority Pollutants List in text, p. 53.
	- MISA White Paper uses many terms (i.e. toxic "contaminants", "substances", pollutants. A standard term and definition is required; CCPA suggests the following definition: * A toxic contaminant is one which even at low concentrations or through biomagnification can cause death, disease, behavioural abnormalities, cancer, genetic mutations, physiological malfunctions or physical deformation in organisms or their offspring.	The suggested definition for "toxic" will be considered in the development of the MISA Priority Pollutants List.
	- MISA suggests toxic pollution is suddenly a problem in Ontario, and this is misleading. Toxics have decreased in the St. Clair. Improvements in technology to detect toxics at low concentrations has generated concern.	While it is true that the limits of detection are improving, this is not the driving force for MISA. MISA is response to the real and potential problems of toxic contaminants in the environment.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
ECTORAL GROUPING OF NDUSTRY	- Organic chemical sector is non-homogeneous. Suggest plant-by-plant effluent regulations rather than sectoral.	In general, BAT(EA) effluent limits will be set in sectoral regulations and sub-sectoral, where feasible. The feasibility of plant-by-plant regulations will be reviewed by the Technical Committees.
	- The steel industry suggests that significant differences exist within their sector and therefore flexibility is required to deal with site-specific circumstances.	This issue should be tabled at the Iron and Steel sector Technical Committee.
	- The Ministry should identify: *the specific plants within each of the eight major sectors; and *the remaining sectors, their plants, and the regulatory timetable; to allow the public to assess the MISA program adequately. The Ministry should provide more information on how the sectoral concept will be refined (i.e. what are the categories and sub-categories).	The Ministry is in the process of doing this, and the information for each sector will be available when the draft monitoring regulation for a given sector is released for public review.
	- Developing standards for companies that fall outside the major sectors could be difficult. Appropriate consultation mechanisms and adequate lead-in times will be required.	The Ministry will ensure that this is done.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
SECTORAL GROUPING OF INDUSTRY (continued)	- Federal and provincial operations should be subject to the same stringent regulations as are proposed for industries and municipalities.	The provisions of the EP Act binds the Crown and Bill 112 makes the OWR Act binding on the Crown. The Ministry will initiate discussion with the federal government to ensure federal facilities come under the same requirements.
NUCLEAR POWER STATIONS	- Hydro assumes regulations will not apply to release of radioactive effluents, which are governed by regulations under the AECB.	The Ministry is carrying out discussions with Ontario Hydro and the AECB on how best to control toxics in radioactive effluents.
DISPOSAL OF SLUDGES	- It should be recognized that OWMC is in a position to handle pre-treatment products from these industries.	The Ministry agrees. There are other waste management firms, as well as OWMC, that can handle such products.
PILOT SITE STUDIES	- The Niagara River should be designated as a MISA pilot site.	The pilot site studies will provide standardized water-quality impact assessment procdures and techniques, which will be applicable at other sites, including the Niagara River. The majority of discharges to the Niagara River are beyond Ontario's direct control.
	- Why have the citizens of the St. Clair River area not been involved in development and conduct of the St. Clair River pilot study?	The study, which is now underway, involves the technical development of computer modelling and biological evaluation procedures for province-wide application. Study findings will be available for public review.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
LOT SITE STUDIES ontinued)	- Where have pilot site studies been undertaken and how is MNR involved?	The 6 Pilot sites are identified on p. 4 of the White Paper. They are aimed at developing receiving water assessment procedures and techniques for use by dischargers and MOE staff. Five of the six pilot site areas are also identified as Great Lakes Areas of Concern and MNR is carrying out fisheries evaluations at these locations.
BORATORY FACILITIES	- Ontario Hydro is prepared to offer the use of their own labs on a contract basis to the private sector for analysing MISA monitoring results. - Regional lab capacity should be expanded to handle municipal monitoring results. - Are there enough facilities available for public and private use to carry out the program? - AMO recommends that provincially-run regional laboratories be established to alleviate the cost to municipalities and quality control problems.	The Ministry is conducting a North America-wide study to assess whether the laboratory capacity that is both available and suitable can meet the needs of the MISA program. The study will also develop appropriate short-term and long-term strategies for meeting identified shortfalls. All the points raised will be addressed as part of the strategy development.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
SHOCK LOADINGS	- MISA regulations do not deal with this problem. Biota in rivers will reflect the impact of occasional high shock loadings, not the mean loading conditions.	As noted in the White Paper, effluent performance levels will be defined in both units of concentration and mass loadings and/or load per unit of production. These units may include annual average, monthly average, daily, and maximum values not to be exceeded. Frequent sampling will be required of a short list of key parameters geared towards picking up plant upsets. The companies will be required to notify the Ministry of plant upsets, and if violations of limits occur, plants may be subject to prosecution. The inclusion of BMP in BAT(EA) implementation will also minimize shock loadings.
STORMWATER DISCHARGES INTO COMBINED SYSTEMS	- Some steel plants use combined stormwater-industrial sewer systems. In developing loading limits for plants, allowance should be made for stormwater loadings.	This problem is not unique to the Iron and Steel sector, and will be discussed by sectoral Technical Committees as appropriate.
PUBLIC AWARENESS	- Companies should be required to affix stickers to products to indicate the level of compliance with regulations. A tax should be introduced on products tied to the rate of compliance.	This is an interesting suggestion but it is beyond the scope of MISA. The idea will be explored by the appropriate Federal/Provincial agencies.

OTHER ISSUES AND MINISTRY RESPONSES

OTHER ISSUES	CONCERNS	MINISTRY RESPONSE
RINKING WATER STANDARDS	- Drinking water standards should be established in enforceable legislation and should cover all substances found in the Great Lakes.	Ontario has set maximum allowable concentrations for contaminants in drinking water which are outlined in the publication, "Ontario Drinking Water Objectives", available from the Ministry. These objectives are continually being added to and updated on a priority basis. The Minister of the Environment under the OWR Act has the power to make these objectives legally enforceable. The Ministry routinely tests municipal water supplies at 35 locations as part of the Drinking Water Surveillance Program. These locations represent 70 per cent of the population of the province who receive water from piped municipal water systems. One hundred and forty parameters are routinely tested for, including microbiological, organic and inorganic substances of concern, and all those for which there is an Ontario Drinking Water Objective.